

SEQUENCE LISTING

<110> Palka-Hamblin, Helena L.
Tonks, Nicholas K.

<120> DEP-1 RECEPTOR PROTEIN TYROSINE
PHOSPHATASE INTERACTING PROTEINS
AND RELATED METHODS

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<141> 2003-11-26

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<212> DNA

<213> Homo sapiens

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<213> Homo sapiens

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Ala Ala Ser Glu Tyr Lys Tyr Val Val Lys His Lys Met Glu Asn Glu
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Glu Thr Trp Gly Asp Pro Arg Val Ile Lys Val Ile Thr Glu Pro Ile
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Pro Val Ser Asp Leu Arg Val Ala Leu Thr Gly Val Arg Lys Ala Ala
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Gly Gly Leu Asp Ala Ser Asn Thr Glu Arg Ser Arg Ala Gly Ser Pro
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<213> Homo sapiens

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 35          40          45
Tyr Glu Asp Leu Lys Leu Val Gly Ile Ser Gln Pro Lys Tyr Ala Ala
 50          55          60
Glu Leu Ala Glu Asn Arg Gly Lys Asn Arg Tyr Asn Asn Val Leu Pro
 65          70          75          80
Tyr Asp Ile Ser Arg Val Lys Leu Ser Val Gln Thr His Ser Thr Asp
 85          90          95
Asp Tyr Ile Asn Ala Asn Tyr Met Pro Gly Tyr His Ser Lys Lys Asp
 100          105          110
Phe Ile Ala Thr Gln Gly Pro Leu Pro Asn Thr Leu Lys Asp Phe Trp
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Arg Met Val Trp Glu Lys Asn Val Tyr Ala Ile Ile Met Leu Thr Lys
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Cys Val Glu Gln Gly Arg Thr Lys Cys Glu Glu Tyr Trp Pro Ser Lys
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Gln Ala Gln Asp Tyr Gly Asp Ile Thr Val Ala Met Thr Ser Glu Ile
 165          170          175
Val Leu Pro Glu Trp Thr Ile Arg Asp Phe Thr Val Lys Asn Ile Gln
 180          185          190
Thr Ser Glu Ser His Pro Leu Arg Gln Phe His Phe Thr Ser Trp Pro
 195          200          205
Asp His Gly Val Pro Asp Thr Thr Asp Leu Leu Ile Asn Phe Arg Tyr

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	245	250
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	260	265
Gly Ile Val Tyr Asp Leu Arg Met His Arg Pro Leu Met Val Gln Thr		270
	275	280
Glu Asp Gln Tyr Val Phe Leu Asn Gln Cys Val Leu Asp Ile Val Arg		285
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Ser Gln Lys Asp Ser Lys Val Asp Leu Ile Tyr Gln Asn Thr Thr Ala		300
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35 40 45
Glu Thr Pro Ile Gln Asn Val Ile Leu His Glu His Ile Phe Leu
50 55 60
Gly Ala Thr Asn Tyr Ile Tyr Val Leu Asn Glu Glu Asp Leu Gln Lys
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145 150 155 160
Ile Phe Ser Pro Gln Ile Glu Glu Pro Ser Gln Cys Pro Asp Cys Val
165 170 175
Val Ser Ala Leu Gly Ala Lys Val Leu Ser Ser Val Lys Asp Arg Phe
180 185 190
Ile Asn Phe Phe Val Gly Asn Thr Ile Asn Ser Ser Tyr Phe Pro Asp
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His Pro Leu His Ser Ile Ser Val Arg Arg Leu Lys Glu Thr Lys Asp
210 215 220
Gly Phe Met Phe Leu Thr Asp Gln Ser Tyr Ile Asp Val Leu Pro Glu

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His	Ser	Tyr	Met	Glu	Met	Pro	Leu	Glu	Cys	Ile	Leu	Thr	Glu	Lys	Arg
	290					295					300				
Lys	Lys	Arg	Ser	Thr	Lys	Lys	Glu	Val	Phe	Asn	Ile	Leu	Gln	Ala	Ala
305					310					315					320
Tyr	Val	Ser	Lys	Pro	Gly	Ala	Gln	Leu	Ala	Arg	Gln	Ile	Gly	Ala	Ser
				325					330					335	
Leu	Asn	Asp	Asp	Ile	Leu	Phe	Gly	Val	Phe	Ala	Gln	Ser	Lys	Pro	Asp
		340						345					350		
Ser	Ala	Glu	Pro	Met	Asp	Arg	Ser	Ala	Met	Cys	Ala	Phe	Pro	Ile	Lys
	355						360					365			
Tyr	Val	Asn	Asp	Phe	Phe	Asn	Lys	Ile	Val	Asn	Lys	Asn	Asn	Val	Arg
	370					375					380				
Cys	Leu	Gln	His	Phe	Tyr	Gly	Pro	Asn	His	Glu	His	Cys	Phe	Asn	Arg
385					390					395					400
Thr	Leu	Leu	Arg	Asn	Ser	Ser	Gly	Cys	Glu	Ala	Arg	Arg	Asp	Glu	Tyr
			405						410					415	
Arg	Thr	Glu	Phe	Thr	Thr	Ala	Leu	Gln	Arg	Val	Asp	Leu	Phe	Met	Gly
			420					425					430		
Gln	Phe	Ser	Glu	Val	Leu	Leu	Thr	Ser	Ile	Ser	Thr	Phe	Ile	Lys	Gly
	435						440					445			
Asp	Leu	Thr	Ile	Ala	Asn	Leu	Gly	Thr	Ser	Glu	Gly	Arg	Phe	Met	Gln
	450					455					460				
Val	Val	Val	Ser	Arg	Ser	Gly	Pro	Ser	Thr	Pro	His	Val	Asn	Phe	Leu
465					470					475					480
Leu	Asp	Ser	His	Pro	Val	Ser	Pro	Glu	Val	Ile	Val	Glu	His	Thr	Leu
			485					490						495	
Asn	Gln	Asn	Gly	Tyr	Thr	Leu	Val	Ile	Thr	Gly	Lys	Lys	Ile	Thr	Lys
			500					505					510		
Ile	Pro	Leu	Asn	Gly	Leu	Gly	Cys	Arg	His	Phe	Gln	Ser	Cys	Ser	Gln
	515						520					525			
Cys	Leu	Ser	Ala	Pro	Pro	Phe	Val	Gln	Cys	Gly	Trp	Cys	His	Asp	Lys
	530					535					540				
Cys	Val	Arg	Ser	Glu	Glu	Cys	Leu	Ser	Gly	Thr	Trp	Thr	Gln	Gln	Ile
545					550					555					560
Cys	Leu	Pro	Ala	Ile	Tyr	Lys	Val	Phe	Pro	Asn	Ser	Ala	Pro	Leu	Glu
			565						570					575	
Gly	Gly	Thr	Arg	Leu	Thr	Ile	Cys	Gly	Trp	Asp	Phe	Gly	Phe	Arg	Arg
		580						585					590		
Asn	Asn	Lys	Phe	Asp	Leu	Lys	Lys	Thr	Arg	Val	Leu	Leu	Gly	Asn	Glu
	595						600					605			
Ser	Cys	Thr	Leu	Thr	Leu	Ser	Glu	Ser	Thr	Met	Asn	Thr	Leu	Lys	Cys
	610					615					620				
Thr	Val	Gly	Pro	Ala	Met	Asn	Lys	His	Phe	Asn	Met	Ser	Ile	Ile	Ile
625					630					635					640
Ser	Asn	Gly	His	Gly	Thr	Thr	Gln	Tyr	Ser	Thr	Phe	Ser	Tyr	Val	Asp
			645					650						655	
Pro	Val	Ile	Thr	Ser	Ile	Ser	Pro	Lys	Tyr	Gly	Pro	Met	Ala	Gly	Gly

			660						665						670					
Thr	Leu	Leu	Thr	Leu	Thr	Gly	Asn	Tyr	Leu	Asn	Ser	Gly	Asn	Ser	Arg					
		675					680					685								
His	Ile	Ser	Ile	Gly	Gly	Lys	Thr	Cys	Thr	Leu	Lys	Ser	Val	Ser	Asn					
	690					695					700									
Ser	Ile	Leu	Glu	Cys	Tyr	Thr	Pro	Ala	Gln	Thr	Ile	Ser	Thr	Glu	Phe					
705					710						715				720					
Ala	Val	Lys	Leu	Lys	Ile	Asp	Leu	Ala	Asn	Arg	Glu	Thr	Ser	Ile	Phe					
				725						730					735					
Ser	Tyr	Arg	Glu	Asp	Pro	Ile	Val	Tyr	Glu	Ile	His	Pro	Thr	Lys	Ser					
			740					745					750							
Phe	Ile	Ser	Gly	Gly	Ser	Thr	Ile	Thr	Gly	Val	Gly	Lys	Asn	Leu	Asn					
		755					760					765								
Ser	Val	Ser	Val	Pro	Arg	Met	Val	Ile	Asn	Val	His	Glu	Ala	Gly	Arg					
	770					775						780								
Asn	Phe	Thr	Val	Ala	Cys	Gln	His	Arg	Ser	Asn	Ser	Glu	Ile	Ile	Cys					
785					790						795				800					
Cys	Thr	Thr	Pro	Ser	Leu	Gln	Gln	Leu	Asn	Leu	Gln	Leu	Pro	Leu	Lys					
				805						810					815					
Thr	Lys	Ala	Phe	Phe	Met	Leu	Asp	Gly	Ile	Leu	Ser	Lys	Tyr	Phe	Asp					
			820						825					830						
Leu	Ile	Tyr	Val	His	Asn	Pro	Val	Phe	Lys	Pro	Phe	Glu	Lys	Pro	Val					
		835					840					845								
Met	Ile	Ser	Met	Gly	Asn	Glu	Asn	Val	Leu	Glu	Ile	Lys	Gly	Asn	Asp					
	850					855						860								
Ile	Asp	Pro	Glu	Ala	Val	Lys	Gly	Glu	Val	Leu	Lys	Val	Gly	Asn	Lys					
865					870						875				880					
Ser	Cys	Glu	Asn	Ile	His	Leu	His	Ser	Glu	Ala	Val	Leu	Cys	Thr	Val					
				885						890				895						
Pro	Asn	Asp	Leu	Leu	Lys	Leu	Asn	Ser	Glu	Leu	Asn	Ile	Glu	Trp	Lys					
			900					905					910							
Gln	Ala	Ile	Ser	Ser	Thr	Val	Leu	Gly	Lys	Val	Ile	Val	Gln	Pro	Asp					
		915						920					925							
Gln	Asn	Phe	Thr	Gly	Leu	Ile	Ala	Gly	Val	Val	Ser	Ile	Ser	Thr	Ala					
		930					935					940								
Leu	Leu	Leu	Leu	Leu	Gly	Phe	Phe	Leu	Trp	Leu	Lys	Lys	Arg	Lys	Gln					
945					950						955				960					
Ile	Lys	Asp	Leu	Gly	Ser	Glu	Leu	Val	Arg	Tyr	Asp	Ala	Arg	Val	His					
				965						970				975						
Thr	Pro	His	Leu	Asp	Arg	Leu	Val	Ser	Ala	Arg	Ser	Val	Ser	Pro	Thr					
			980						985					990						
Thr	Glu	Met	Val	Ser	Asn	Glu	Ser	Val	Asp	Tyr	Arg	Ala	Thr	Phe	Pro					
		995						1000					1005							

1090	1095	1100
Ile His Cys Ala Val Lys Ser Leu Asn Arg Ile Thr Asp Ile Gly Glu		
1105	1110	1115
Val Ser Gln Phe Leu Thr Glu Gly Ile Ile Met Lys Asp Phe Ser His		
	1125	1130
Pro Asn Val Leu Ser Leu Leu Gly Ile Cys Leu Arg Ser Glu Gly Ser		
	1140	1145
Pro Leu Val Val Leu Pro Tyr Met Lys His Gly Asp Leu Arg Asn Phe		
	1155	1160
Ile Arg Asn Glu Thr His Asn Pro Thr Val Lys Asp Leu Ile Gly Phe		
	1170	1175
Gly Leu Gln Val Ala Lys Gly Met Lys Tyr Leu Ala Ser Lys Lys Phe		
1185	1190	1195
Val His Arg Asp Leu Ala Ala Arg Asn Cys Met Leu Asp Glu Lys Phe		
	1205	1210
Thr Val Lys Val Ala Asp Phe Gly Leu Ala Arg Asp Met Tyr Asp Lys		
	1220	1225
Glu Tyr Tyr Ser Val His Asn Lys Thr Gly Ala Lys Leu Pro Val Lys		
	1235	1240
Trp Met Ala Leu Glu Ser Leu Gln Thr Gln Lys Phe Thr Thr Lys Ser		
	1250	1255
Asp Val Trp Ser Phe Gly Val Val Leu Trp Glu Leu Met Thr Arg Gly		
1265	1270	1275
Ala Pro Pro Tyr Pro Asp Val Asn Thr Phe Asp Ile Thr Val Tyr Leu		
	1285	1290
Leu Gln Gly Arg Arg Leu Leu Gln Pro Glu Tyr Cys Pro Asp Pro Leu		
	1300	1305
Tyr Glu Val Met Leu Lys Cys Trp His Pro Lys Ala Glu Met Arg Pro		
	1315	1320
Ser Phe Ser Glu Leu Val Ser Arg Ile Ser Ala Ile Phe Ser Thr Phe		
	1330	1335
Ile Gly Glu His Tyr Val His Val Asn Ala Thr Tyr Val Asn Val Lys		
1345	1350	1355
Cys Val Ala Pro Tyr Pro Ser Leu Leu Ser Ser Glu Asp Asn Ala Asp		
	1365	1370
Asp Glu Val Asp Thr Arg Pro Ala Ser Phe Trp Glu Thr Ser		
	1380	1385
		1390

<210> 5

<211> 1408

<212> PRT

<213> Homo sapiens

<400> 5

Met Lys Ala Pro Ala Val Leu Ala Pro Gly Ile Leu Val Leu Leu Phe	
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Thr Leu Val Gln Arg Ser Asn Gly Glu Cys Lys Glu Ala Leu Ala Lys	
	20
Ser Glu Met Asn Val Asn Met Lys Tyr Gln Leu Pro Asn Phe Thr Ala	
	35
Glu Thr Pro Ile Gln Asn Val Ile Leu His Glu His His Ile Phe Leu	
	50
Gly Ala Thr Asn Tyr Ile Tyr Val Leu Asn Glu Glu Asp Leu Gln Lys	
	55
	60

65					70					75					80
Val	Ala	Glu	Tyr	Lys	Thr	Gly	Pro	Val	Leu	Glu	His	Pro	Asp	Cys	Phe
				85					90					95	
Pro	Cys	Gln	Asp	Cys	Ser	Ser	Lys	Ala	Asn	Leu	Ser	Gly	Gly	Val	Trp
			100					105					110		
Lys	Asp	Asn	Ile	Asn	Met	Ala	Leu	Val	Val	Asp	Thr	Tyr	Tyr	Asp	Asp
			115				120					125			
Gln	Leu	Ile	Ser	Cys	Gly	Ser	Val	Asn	Arg	Gly	Thr	Cys	Gln	Arg	His
		130				135					140				
Val	Phe	Pro	His	Asn	His	Thr	Ala	Asp	Ile	Gln	Ser	Glu	Val	His	Cys
145					150					155					160
Ile	Phe	Ser	Pro	Gln	Ile	Glu	Glu	Pro	Ser	Gln	Cys	Pro	Asp	Cys	Val
				165					170					175	
Val	Ser	Ala	Leu	Gly	Ala	Lys	Val	Leu	Ser	Ser	Val	Lys	Asp	Arg	Phe
			180					185					190		
Ile	Asn	Phe	Val	Gly	Asn	Thr	Ile	Asn	Ser	Ser	Tyr	Phe	Pro	Asp	
		195				200					205				
His	Pro	Leu	His	Ser	Ile	Ser	Val	Arg	Arg	Leu	Lys	Glu	Thr	Lys	Asp
	210					215					220				
Gly	Phe	Met	Phe	Leu	Thr	Asp	Gln	Ser	Tyr	Ile	Asp	Val	Leu	Pro	Glu
225					230					235					240
Phe	Arg	Asp	Ser	Tyr	Pro	Ile	Lys	Tyr	Val	His	Ala	Phe	Glu	Ser	Asn
				245					250					255	
Asn	Phe	Ile	Tyr	Phe	Leu	Thr	Val	Gln	Arg	Glu	Thr	Leu	Asp	Ala	Gln
			260					265					270		
Thr	Phe	His	Thr	Arg	Ile	Ile	Arg	Phe	Cys	Ser	Ile	Asn	Ser	Gly	Leu
		275					280					285			
His	Ser	Tyr	Met	Glu	Met	Pro	Leu	Glu	Cys	Ile	Leu	Thr	Glu	Lys	Arg
	290					295					300				
Lys	Lys	Arg	Ser	Thr	Lys	Lys	Glu	Val	Phe	Asn	Ile	Leu	Gln	Ala	Ala
305					310					315					320
Tyr	Val	Ser	Lys	Pro	Gly	Ala	Gln	Leu	Ala	Arg	Gln	Ile	Gly	Ala	Ser
				325					330					335	
Leu	Asn	Asp	Asp	Ile	Leu	Phe	Gly	Val	Phe	Ala	Gln	Ser	Lys	Pro	Asp
			340					345					350		
Ser	Ala	Glu	Pro	Met	Asp	Arg	Ser	Ala	Met	Cys	Ala	Phe	Pro	Ile	Lys
		355					360					365			
Tyr	Val	Asn	Asp	Phe	Phe	Asn	Lys	Ile	Val	Asn	Lys	Asn	Asn	Val	Arg
	370					375					380				
Cys	Leu	Gln	His	Phe	Tyr	Gly	Pro	Asn	His	Glu	His	Cys	Phe	Asn	Arg
385					390					395					400
Thr	Leu	Leu	Arg	Asn	Ser	Ser	Gly	Cys	Glu	Ala	Arg	Arg	Asp	Glu	Tyr
				405					410					415	
Arg	Thr	Glu	Phe	Thr	Thr	Ala	Leu	Gln	Arg	Val	Asp	Leu	Phe	Met	Gly
			420					425					430		
Gln	Phe	Ser	Glu	Val	Leu	Leu	Thr	Ser	Ile	Ser	Thr	Phe	Ile	Lys	Gly
	435						440					445			
Asp	Leu	Thr	Ile	Ala	Asn	Leu	Gly	Thr	Ser	Glu	Gly	Arg	Phe	Met	Gln
	450					455					460				
Val	Val	Val	Ser	Arg	Ser	Gly	Pro	Ser	Thr	Pro	His	Val	Asn	Phe	Leu
465					470					475					480
Leu	Asp	Ser	His	Pro	Val	Ser	Pro	Glu	Val	Ile	Val	Glu	His	Thr	Leu
				485					490					495	
Asn	Gln	Asn	Gly	Tyr	Thr	Leu	Val	Ile	Thr	Gly	Lys	Lys	Ile	Thr	Lys

Ile	Pro	Leu	Asn	Gly	Leu	Gly	Cys	Arg	His	Phe	Gln	Ser	Cys	Ser	Gln
		515					520					525			
Cys	Leu	Ser	Ala	Pro	Pro	Phe	Val	Gln	Cys	Gly	Trp	Cys	His	Asp	Lys
	530					535					540				
Cys	Val	Arg	Ser	Glu	Glu	Cys	Leu	Ser	Gly	Thr	Trp	Thr	Gln	Gln	Ile
545				550						555					560
Cys	Leu	Pro	Ala	Ile	Tyr	Lys	Val	Phe	Pro	Asn	Ser	Ala	Pro	Leu	Glu
			565						570				575		
Gly	Gly	Thr	Arg	Leu	Thr	Ile	Cys	Gly	Trp	Asp	Phe	Gly	Phe	Arg	Arg
			580					585					590		
Asn	Asn	Lys	Phe	Asp	Leu	Lys	Lys	Thr	Arg	Val	Leu	Leu	Gly	Asn	Glu
		595					600					605			
Ser	Cys	Thr	Leu	Thr	Leu	Ser	Glu	Ser	Thr	Met	Asn	Thr	Leu	Lys	Cys
	610					615					620				
Thr	Val	Gly	Pro	Ala	Met	Asn	Lys	His	Phe	Asn	Met	Ser	Ile	Ile	Ile
625				630						635					640
Ser	Asn	Gly	His	Gly	Thr	Thr	Gln	Tyr	Ser	Thr	Phe	Ser	Tyr	Val	Asp
			645						650					655	
Pro	Val	Ile	Thr	Ser	Ile	Ser	Pro	Lys	Tyr	Gly	Pro	Met	Ala	Gly	Gly
			660					665					670		
Thr	Leu	Leu	Thr	Leu	Thr	Gly	Asn	Tyr	Leu	Asn	Ser	Gly	Asn	Ser	Arg
		675					680					685			
His	Ile	Ser	Ile	Gly	Gly	Lys	Thr	Cys	Thr	Leu	Lys	Ser	Val	Ser	Asn
	690					695					700				
Ser	Ile	Leu	Glu	Cys	Tyr	Thr	Pro	Ala	Gln	Thr	Ile	Ser	Thr	Glu	Phe
705				710						715					720
Ala	Val	Lys	Leu	Lys	Ile	Asp	Leu	Ala	Asn	Arg	Glu	Thr	Ser	Ile	Phe
			725						730					735	
Ser	Tyr	Arg	Glu	Asp	Pro	Ile	Val	Tyr	Glu	Ile	His	Pro	Thr	Lys	Ser
			740					745					750		
Phe	Ile	Ser	Thr	Trp	Trp	Lys	Glu	Pro	Leu	Asn	Ile	Val	Ser	Phe	Leu
		755					760					765			
Phe	Cys	Phe	Ala	Ser	Gly	Gly	Ser	Thr	Ile	Thr	Gly	Val	Gly	Lys	Asn
	770					775					780				
Leu	Asn	Ser	Val	Ser	Val	Pro	Arg	Met	Val	Ile	Asn	Val	His	Glu	Ala
785				790						795					800
Gly	Arg	Asn	Phe	Thr	Val	Ala	Cys	Gln	His	Arg	Ser	Asn	Ser	Glu	Ile
			805						810					815	
Ile	Cys	Cys	Thr	Thr	Pro	Ser	Leu	Gln	Gln	Leu	Asn	Leu	Gln	Leu	Pro
			820					825					830		
Leu	Lys	Thr	Lys	Ala	Phe	Phe	Met	Leu	Asp	Gly	Ile	Leu	Ser	Lys	Tyr
		835					840					845			
Phe	Asp	Leu	Ile	Tyr	Val	His	Asn	Pro	Val	Phe	Lys	Pro	Phe	Glu	Lys
	850					855									

930	935	940
Pro Asp Gln Asn Phe Thr Gly Leu Ile Ala Gly Val Val Ser Ile Ser		
945	950	955
Thr Ala Leu Leu Leu Leu Leu Gly Phe Phe Leu Trp Leu Lys Lys Arg		
	965	970
Lys Gln Ile Lys Asp Leu Gly Ser Glu Leu Val Arg Tyr Asp Ala Arg		
	980	985
Val His Thr Pro His Leu Asp Arg Leu Val Ser Ala Arg Ser Val Ser		
	995	1000
Pro Thr Thr Glu Met Val Ser Asn Glu Ser Val Asp Tyr Arg Ala Thr		
	1010	1015
Phe Pro Glu Asp Gln Phe Pro Asn Ser Ser Gln Asn Gly Ser Cys Arg		
1025	1030	1035
Gln Val Gln Tyr Pro Leu Thr Asp Met Ser Pro Ile Leu Thr Ser Gly		
	1045	1050
Asp Ser Asp Ile Ser Ser Pro Leu Leu Gln Asn Thr Val His Ile Asp		
	1060	1065
Leu Ser Ala Leu Asn Pro Glu Leu Val Gln Ala Val Gln His Val Val		
	1075	1080
Ile Gly Pro Ser Ser Leu Ile Val His Phe Asn Glu Val Ile Gly Arg		
	1090	1095
Gly His Phe Gly Cys Val Tyr His Gly Thr Leu Leu Asp Asn Asp Gly		
1105	1110	1115
Lys Lys Ile His Cys Ala Val Lys Ser Leu Asn Arg Ile Thr Asp Ile		
	1125	1130
Gly Glu Val Ser Gln Phe Leu Thr Glu Gly Ile Ile Met Lys Asp Phe		
	1140	1145
Ser His Pro Asn Val Leu Ser Leu Leu Gly Ile Cys Leu Arg Ser Glu		
	1155	1160
Gly Ser Pro Leu Val Val Leu Pro Tyr Met Lys His Gly Asp Leu Arg		
	1170	1175
Asn Phe Ile Arg Asn Glu Thr His Asn Pro Thr Val Lys Asp Leu Ile		
1185	1190	1195
Gly Phe Gly Leu Gln Val Ala Lys Ala Met Lys Tyr Leu Ala Ser Lys		
	1205	1210
Lys Phe Val His Arg Asp Leu Ala Ala Arg Asn Cys Met Leu Asp Glu		
	1220	1225
Lys Phe Thr Val Lys Val Ala Asp Phe Gly Leu Ala Arg Asp Met Tyr		
	1235	1240
Asp Lys Glu Tyr Tyr Ser Val His Asn Lys Thr Gly Ala Lys Leu Pro		
	1250	1255
Val Lys Trp Met Ala Leu Glu Ser Leu Gln Thr Gln Lys Phe Thr Thr		
1265	1270	1275
Lys Ser Asp Val Trp Ser Phe Gly Val Val Leu Trp Glu Leu Met Thr		
	1285	1290
Arg Gly Ala Pro Tyr Pro Asp Val Asn Thr Phe Asp Ile Thr Val		
	1300	1305
Tyr Leu Leu Gln Gly Arg Arg Leu Leu Gln Pro Glu Tyr Cys Pro Asp		
	1315	1320
Pro Leu Tyr Glu Val Met Leu Lys Cys Trp His Pro Lys Ala Glu Met		
	1330	1335
Arg Pro Ser Phe Ser Glu Leu Val Ser Arg Ile Ser Ala Ile Phe Ser		
1345	1350	1355
Thr Phe Ile Gly Glu His Tyr Val His Val Asn Ala Thr Tyr Val Asn		

				1365						1370					1375
Val	Lys	Cys	Val	Ala	Pro	Tyr	Pro	Ser	Leu	Leu	Ser	Ser	Glu	Asp	Asn
			1380					1385					1390		
Ala	Asp	Asp	Glu	Val	Asp	Thr	Arg	Pro	Ala	Ser	Phe	Trp	Glu	Thr	Ser
		1395					1400					1405			

<210> 6
 <211> 1408
 <212> PRT
 <213> Homo sapiens

<400> 6

Met	Lys	Ala	Pro	Ala	Val	Leu	Ala	Pro	Gly	Ile	Leu	Val	Leu	Leu	Phe
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Thr	Leu	Val	Gln	Arg	Ser	Asn	Gly	Glu	Cys	Lys	Glu	Ala	Leu	Ala	Lys
			20					25				30			
Ser	Glu	Met	Asn	Val	Asn	Met	Lys	Tyr	Gln	Leu	Pro	Asn	Phe	Thr	Ala
		35					40					45			
Glu	Thr	Pro	Ile	Gln	Asn	Val	Ile	Leu	His	Glu	His	His	Ile	Phe	Leu
	50					55				60					
Gly	Ala	Thr	Asn	Tyr	Ile	Tyr	Val	Leu	Asn	Glu	Glu	Asp	Leu	Gln	Lys
65					70					75				80	
Val	Ala	Glu	Tyr	Lys	Thr	Gly	Pro	Val	Leu	Glu	His	Pro	Asp	Cys	Phe
				85					90					95	
Pro	Cys	Gln	Asp	Cys	Ser	Ser	Lys	Ala	Asn	Leu	Ser	Gly	Gly	Val	Trp
			100					105					110		
Lys	Asp	Asn	Ile	Asn	Met	Ala	Leu	Val	Val	Asp	Thr	Tyr	Tyr	Asp	Asp
		115					120					125			
Gln	Leu	Ile	Ser	Cys	Gly	Ser	Val	Asn	Arg	Gly	Thr	Cys	Gln	Arg	His
	130					135					140				
Val	Phe	Pro	His	Asn	His	Thr	Ala	Asp	Ile	Gln	Ser	Glu	Val	His	Cys
145					150					155					160
Ile	Phe	Ser	Pro	Gln	Ile	Glu	Glu	Pro	Ser	Gln	Cys	Pro	Asp	Cys	Val
				165					170					175	
Val	Ser	Ala	Leu	Gly	Ala	Lys	Val	Leu	Ser	Ser	Val	Lys	Asp	Arg	Phe
			180					185					190		
Ile	Asn	Phe	Phe	Val	Gly	Asn	Thr	Ile	Asn	Ser	Ser	Tyr	Phe	Pro	Asp
		195					200					205			
His	Pro	Leu	His	Ser	Ile	Ser	Val	Arg	Arg	Leu	Lys	Glu	Thr	Lys	Asp
		210				215						220			
Gly	Phe	Met	Phe	Leu	Thr	Asp	Gln	Ser	Tyr	Ile	Asp	Val	Leu	Pro	Glu
225					230					235					240
Phe	Arg	Asp	Ser	Tyr	Pro	Ile	Lys	Tyr	Val	His	Ala	Phe	Glu	Ser	Asn
			245						250					255	
Asn	Phe	Ile	Tyr	Phe	Leu	Thr	Val	Gln	Arg	Glu	Thr	Leu	Asp	Ala	Gln
		260						265					270		
Thr	Phe	His	Thr	Arg	Ile	Ile	Arg	Phe	Cys	Ser	Ile	Asn	Ser	Gly	Leu
		275					280					285			
His	Ser	Tyr	Met	Glu	Met	Pro	Leu	Glu	Cys	Ile	Leu	Thr	Glu	Lys	Arg
		290				295					300				
Lys	Lys	Arg	Ser	Thr	Lys	Lys	Glu	Val	Phe	Asn	Ile	Leu	Gln	Ala	Ala
305					310					315					320
Tyr	Val	Ser	Lys	Pro	Gly	Ala	Gln	Leu	Ala	Arg	Gln	Ile	Gly	Ala	Ser

				325					330					335	
Leu	Asn	Asp	Asp	Ile	Leu	Phe	Gly	Val	Phe	Ala	Gln	Ser	Lys	Pro	Asp
			340					345					350		
Ser	Ala	Glu	Pro	Met	Asp	Arg	Ser	Ala	Met	Cys	Ala	Phe	Pro	Ile	Lys
		355					360					365			
Tyr	Val	Asn	Asp	Phe	Phe	Asn	Lys	Ile	Val	Asn	Lys	Asn	Asn	Val	Arg
	370					375					380				
Cys	Leu	Gln	His	Phe	Tyr	Gly	Pro	Asn	His	Glu	His	Cys	Phe	Asn	Arg
385					390					395					400
Thr	Leu	Leu	Arg	Asn	Ser	Ser	Gly	Cys	Glu	Ala	Arg	Arg	Asp	Glu	Tyr
				405					410					415	
Arg	Thr	Glu	Phe	Thr	Thr	Ala	Leu	Gln	Arg	Val	Asp	Leu	Phe	Met	Gly
			420					425					430		
Gln	Phe	Ser	Glu	Val	Leu	Leu	Thr	Ser	Ile	Ser	Thr	Phe	Ile	Lys	Gly
		435					440					445			
Asp	Leu	Thr	Ile	Ala	Asn	Leu	Gly	Thr	Ser	Glu	Gly	Arg	Phe	Met	Gln
	450					455					460				
Val	Val	Val	Ser	Arg	Ser	Gly	Pro	Ser	Thr	Pro	His	Val	Asn	Phe	Leu
465					470					475					480
Leu	Asp	Ser	His	Pro	Val	Ser	Pro	Glu	Val	Ile	Val	Glu	His	Thr	Leu
				485					490					495	
Asn	Gln	Asn	Gly	Tyr	Thr	Leu	Val	Ile	Thr	Gly	Lys	Lys	Ile	Thr	Lys
			500					505					510		
Ile	Pro	Leu	Asn	Gly	Leu	Gly	Cys	Arg	His	Phe	Gln	Ser	Cys	Ser	Gln
		515					520					525			
Cys	Leu	Ser	Ala	Pro	Pro	Phe	Val	Gln	Cys	Gly	Trp	Cys	His	Asp	Lys
	530					535					540				
Cys	Val	Arg	Ser	Glu	Glu	Cys	Leu	Ser	Gly	Thr	Trp	Thr	Gln	Gln	Ile
545					550					555					560
Cys	Leu	Pro	Ala	Ile	Tyr	Lys	Val	Phe	Pro	Asn	Ser	Ala	Pro	Leu	Glu
				565					570					575	
Gly	Gly	Thr	Arg	Leu	Thr	Ile	Cys	Gly	Trp	Asp	Phe	Gly	Phe	Arg	Arg
			580					585					590		
Asn	Asn	Lys	Phe	Asp	Leu	Lys	Lys	Thr	Arg	Val	Leu	Leu	Gly	Asn	Glu
		595					600					605			
Ser	Cys	Thr	Leu	Thr	Leu	Ser	Glu	Ser	Thr	Met	Asn	Thr	Leu	Lys	Cys
		610				615					620				
Thr	Val	Gly	Pro	Ala	Met	Asn	Lys	His	Phe	Asn	Met	Ser	Ile	Ile	Ile
625					630					635					640
Ser	Asn	Gly	His	Gly	Thr	Thr	Gln	Tyr	Ser	Thr	Phe	Ser	Tyr	Val	Asp
				645						650				655	
Pro	Val	Ile	Thr	Ser	Ile	Ser	Pro	Lys	Tyr	Gly	Pro	Met	Ala	Gly	Gly
			660					665					670		
Thr	Leu	Leu	Thr	Leu	Thr	Gly	Asn	Tyr	Leu	Asn	Ser	Gly	Asn	Ser	Arg
		675													

		755					760					765				
Phe	Cys	Phe	Ala	Ser	Gly	Gly	Ser	Thr	Ile	Thr	Gly	Val	Gly	Lys	Asn	
	770					775					780					
Leu	Asn	Ser	Val	Ser	Val	Pro	Arg	Met	Val	Ile	Asn	Val	His	Glu	Ala	
785					790					795					800	
Gly	Arg	Asn	Phe	Thr	Val	Ala	Cys	Gln	His	Arg	Ser	Asn	Ser	Glu	Ile	
				805					810					815		
Ile	Cys	Cys	Thr	Thr	Pro	Ser	Leu	Gln	Gln	Leu	Asn	Leu	Gln	Leu	Pro	
			820					825					830			
Leu	Lys	Thr	Lys	Ala	Phe	Phe	Met	Leu	Asp	Gly	Ile	Leu	Ser	Lys	Tyr	
		835					840					845				
Phe	Asp	Leu	Ile	Tyr	Val	His	Asn	Pro	Val	Phe	Lys	Pro	Phe	Glu	Lys	
	850					855					860					
Pro	Val	Met	Ile	Ser	Met	Gly	Asn	Glu	Asn	Val	Leu	Glu	Ile	Lys	Gly	
865					870					875					880	
Asn	Asp	Ile	Asp	Pro	Glu	Ala	Val	Lys	Gly	Glu	Val	Leu	Lys	Val	Gly	
				885					890					895		
Asn	Lys	Ser	Cys	Glu	Asn	Ile	His	Leu	His	Ser	Glu	Ala	Val	Leu	Cys	
			900					905					910			
Thr	Val	Pro	Asn	Asp	Leu	Leu	Lys	Leu	Asn	Ser	Glu	Leu	Asn	Ile	Glu	
		915					920					925				
Trp	Lys	Gln	Ala	Ile	Ser	Ser	Thr	Val	Leu	Gly	Lys	Val	Ile	Val	Gln	
	930					935					940					
Pro	Asp	Gln	Asn	Phe	Thr	Gly	Leu	Ile	Ala	Gly	Val	Val	Ser	Ile	Ser	
945					950					955					960	
Thr	Ala	Leu	Leu	Leu	Leu	Leu	Gly	Phe	Phe	Leu	Trp	Leu	Lys	Lys	Arg	
				965					970					975		
Lys	Gln	Ile	Lys	Asp	Leu	Gly	Ser	Glu	Leu	Val	Arg	Tyr	Asp	Ala	Arg	
			980					985					990			
Val	His	Thr	Pro	His	Leu	Asp	Arg	Leu	Val	Ser	Ala	Arg	Ser	Val	Ser	
		995					1000					1005				
Pro	Thr	Thr	Glu	Met	Val	Ser	Asn	Glu	Ser	Val	Asp	Tyr	Arg	Ala	Thr	
	1010					1015					1020					
Phe	Pro	Glu	Asp	Gln	Phe	Pro	Asn	Ser	Ser	Gln	Asn	Gly	Ser	Cys	Arg	
1025					1030					1035					1040	
Gln	Val	Gln	Tyr	Pro	Leu	Thr	Asp	Met	Ser	Pro	Ile	Leu	Thr	Ser	Gly	
				1045					1050					1055		
Asp	Ser	Asp	Ile	Ser	Ser	Pro	Leu	Leu	Gln	Asn	Thr	Val	His	Ile	Asp	
			1060					1065					1070			
Leu	Ser	Ala	Leu	Asn	Pro	Glu	Leu	Val	Gln	Ala	Val	Gln	His	Val	Val	
		1075					1080					1085				
Ile	Gly	Pro	Ser	Ser	Leu	Ile	Val	His	Phe	Asn	Glu	Val	Ile	Gly	Arg	
	1090					1095					1100					
Gly	His	Phe	Gly	Cys	Val	Tyr	His	Gly	Thr	Leu	Leu	Asp	Asn	Asp	Gly	
1105					1110											


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1185          1190          1195          1200
Gly Phe Gly Leu Gln Val Ala Lys Ala Met Lys Tyr Leu Ala Ser Lys
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Lys Phe Val His Arg Asp Leu Ala Ala Arg Asn Cys Met Leu Asp Glu
          1220          1225          1230
Lys Phe Thr Val Lys Val Ala Asp Phe Gly Leu Ala Arg Asp Met Tyr
          1235          1240          1245
Asp Lys Glu Tyr Tyr Ser Val His Asn Lys Thr Gly Ala Lys Leu Pro
          1250          1255          1260
Val Lys Trp Met Ala Leu Glu Ser Leu Gln Thr Gln Lys Phe Thr Thr
1265          1270          1275          1280
Lys Ser Asp Val Trp Ser Phe Gly Val Val Leu Trp Glu Leu Met Thr
          1285          1290          1295
Arg Gly Ala Pro Pro Tyr Pro Asp Val Asn Thr Phe Asp Ile Thr Val
          1300          1305          1310
Tyr Leu Leu Gln Gly Arg Arg Leu Leu Gln Pro Glu Tyr Cys Pro Asp
          1315          1320          1325
Pro Leu Tyr Glu Val Met Leu Lys Cys Trp His Pro Lys Ala Glu Met
          1330          1335          1340
Arg Pro Ser Phe Ser Glu Leu Val Ser Arg Ile Ser Ala Ile Phe Ser
1345          1350          1355          1360
Thr Phe Ile Gly Glu His Tyr Val His Val Asn Ala Thr Tyr Val Asn
          1365          1370          1375
Val Lys Cys Val Ala Pro Tyr Pro Ser Leu Leu Ser Ser Glu Asp Asn
          1380          1385          1390
Ala Asp Asp Glu Val Asp Thr Arg Pro Ala Ser Phe Trp Glu Thr Ser
          1395          1400          1405

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<210> 7
<211> 979
<212> PRT
<213> Artificial Sequence

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<220>
<223> CSF-MET fusion protein.

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Gly Gln Gly Ile Pro Val Ile Glu Pro Ser Val Pro Glu Leu Val Val
          20          25          30
Lys Pro Gly Ala Thr Val Thr Leu Arg Cys Val Gly Asn Gly Ser Val
          35          40          45
Glu Trp Asp Gly Pro Pro Ser Pro His Trp Thr Leu Tyr Ser Asp Gly
          50          55          60
Ser Ser Ser Ile Leu Ser Thr Asn Asn Ala Thr Phe Gln Asn Thr Gly
65          70          75          80
Thr Tyr Arg Cys Thr Glu Pro Gly Asp Pro Leu Gly Gly Ser Ala Ala
          85          90          95
Ile His Leu Tyr Val Lys Asp Pro Ala Arg Pro Trp Asn Val Leu Ala
          100          105          110
Gln Glu Val Val Val Phe Glu Asp Gln Asp Ala Leu Leu Pro Cys Leu
          115          120          125

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Leu	Thr	Asp	Pro	Val	Leu	Glu	Ala	Gly	Val	Ser	Leu	Val	Arg	Val	Arg
130						135					140				
Gly	Arg	Pro	Leu	Met	Arg	His	Thr	Asn	Tyr	Ser	Phe	Ser	Pro	Trp	His
145					150					155					160
Gly	Phe	Thr	Ile	His	Arg	Ala	Lys	Phe	Ile	Gln	Ser	Gln	Asp	Tyr	Gln
				165					170					175	
Cys	Ser	Ala	Leu	Met	Gly	Gly	Arg	Lys	Val	Met	Ser	Ile	Ser	Ile	Arg
			180					185					190		
Leu	Lys	Val	Gln	Lys	Val	Ile	Pro	Gly	Pro	Pro	Ala	Leu	Thr	Leu	Val
	195						200					205			
Pro	Ala	Glu	Leu	Val	Arg	Ile	Arg	Gly	Glu	Ala	Ala	Gln	Ile	Val	Cys
	210					215					220				
Ser	Ala	Ser	Ser	Val	Asp	Val	Asn	Phe	Asp	Val	Phe	Leu	Gln	His	Asn
225					230					235					240
Asn	Thr	Lys	Leu	Ala	Ile	Pro	Gln	Gln	Ser	Asp	Phe	His	Asn	Asn	Arg
				245					250					255	
Tyr	Gln	Lys	Val	Leu	Thr	Leu	Asn	Leu	Asp	Gln	Val	Asp	Phe	Gln	His
			260					265					270		
Ala	Gly	Asn	Tyr	Ser	Cys	Val	Ala	Ser	Asn	Val	Gln	Gly	Lys	His	Ser
	275						280					285			
Thr	Ser	Met	Phe	Phe	Arg	Val	Val	Glu	Ser	Ala	Tyr	Leu	Asn	Leu	Ser
	290					295					300				
Ser	Glu	Gln	Asn	Leu	Ile	Gln	Glu	Val	Thr	Val	Gly	Glu	Gly	Leu	Asn
305					310					315					320
Leu	Lys	Val	Met	Val	Glu	Ala	Tyr	Pro	Gly	Leu	Gln	Gly	Phe	Asn	Trp
				325					330					335	
Thr	Tyr	Leu	Gly	Pro	Phe	Ser	Asp	His	Gln	Pro	Glu	Pro	Lys	Leu	Ala
			340					345					350		
Asn	Ala	Thr	Thr	Lys	Asp	Thr	Tyr	Arg	His	Thr	Phe	Thr	Leu	Ser	Leu
	355						360					365			
Pro	Arg	Leu	Lys	Pro	Ser	Glu	Ala	Gly	Arg	Tyr	Ser	Phe	Leu	Ala	Arg
	370					375					380				
Asn	Pro	Gly	Gly	Trp	Arg	Ala	Leu	Thr	Phe	Glu	Leu	Thr	Leu	Arg	Tyr
385					390					395					400
Pro	Pro	Glu	Val	Ser	Val	Ile	Trp	Thr	Phe	Ile	Asn	Gly	Ser	Gly	Thr
				405					410					415	
Leu	Leu	Cys	Ala	Ala	Ser	Gly	Tyr	Pro	Gln	Pro	Asn	Val	Thr	Trp	Leu
			420					425				430			
Gln	Cys	Ser	Gly	His	Thr	Asp	Arg	Cys	Asp	Glu	Ala	Gln	Val	Leu	Gln
	435						440					445			
Val	Trp	Asp	Asp	Pro	Tyr	Pro	Glu	Val	Leu	Ser	Gln	Glu	Pro	Phe	His
	450					455					460				
Lys	Val	Thr	Val	Gln	Ser	Leu	Leu	Thr	Val	Glu	Thr	Leu	Glu	His	Asn
465					470					475					480
Gln	Thr	Tyr	Glu	Cys	Arg	Ala	His	Asn	Ser	Val	Gly	Ser	Gly	Ser	Trp
				485					490					495	
Ala	Phe	Ile	Pro	Ile	Ser	Ala	Gly	Ala	His	Thr	Asp	Leu	Gly	Lys	Val
			500					505					510		
Ile	Val	Gln	Pro	Asp	Gln	Asn	Phe	Thr	Gly	Leu	Ile	Ala	Gly	Val	Val
		515					520					525			
Ser	Ile	Ser	Thr	Ala	Leu	Leu	Leu	Leu	Leu	Gly	Phe	Phe	Leu	Trp	Leu
	530					535					540				
Lys	Lys	Arg	Lys	Gln	Ile	Lys	Asp	Leu	Gly	Ser	Glu	Leu	Val	Arg	Tyr
545					550					555					560

Asp	Ala	Arg	Val	His	Thr	Pro	His	Leu	Asp	Arg	Leu	Val	Ser	Ala	Arg	565	570	575
Ser	Val	Ser	Pro	Thr	Thr	Glu	Met	Val	Ser	Asn	Glu	Ser	Val	Asp	Tyr	580	585	590
Arg	Ala	Thr	Phe	Pro	Glu	Asp	Gln	Phe	Pro	Asn	Ser	Ser	Gln	Asn	Gly	595	600	605
Ser	Cys	Arg	Gln	Val	Gln	Tyr	Pro	Leu	Thr	Asp	Met	Ser	Pro	Ile	Leu	610	615	620
Thr	Ser	Gly	Asp	Ser	Asp	Ile	Ser	Ser	Pro	Leu	Leu	Gln	Asn	Thr	Val	625	630	635
His	Ile	Asp	Leu	Ser	Ala	Leu	Asn	Pro	Glu	Leu	Val	Gln	Ala	Val	Gln	645	650	655
His	Val	Val	Ile	Gly	Pro	Ser	Ser	Leu	Ile	Val	His	Phe	Asn	Glu	Val	660	665	670
Ile	Gly	Arg	Gly	His	Phe	Gly	Cys	Val	Tyr	His	Gly	Thr	Leu	Leu	Asp	675	680	685
Asn	Asp	Gly	Lys	Lys	Ile	His	Cys	Ala	Val	Lys	Ser	Leu	Asn	Arg	Ile	690	695	700
Thr	Asp	Ile	Gly	Glu	Val	Ser	Gln	Phe	Leu	Thr	Glu	Gly	Ile	Ile	Met	705	710	715
Lys	Asp	Phe	Ser	His	Pro	Asn	Val	Leu	Ser	Leu	Leu	Gly	Ile	Cys	Leu	725	730	735
Arg	Ser	Glu	Gly	Ser	Pro	Leu	Val	Val	Leu	Pro	Tyr	Met	Lys	His	Gly	740	745	750
Asp	Leu	Arg	Asn	Phe	Ile	Arg	Asn	Glu	Thr	His	Asn	Pro	Thr	Val	Lys	755	760	765
Asp	Leu	Ile	Gly	Phe	Gly	Leu	Gln	Val	Ala	Lys	Ala	Met	Lys	Tyr	Leu	770	775	780
Ala	Ser	Lys	Lys	Phe	Val	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Cys	Met	785	790	795
Leu	Asp	Glu	Lys	Phe	Thr	Val	Lys	Val	Ala	Asp	Phe	Gly	Leu	Ala	Arg	805	810	815
Asp	Met	Tyr	Asp	Lys	Glu	Tyr	Tyr	Ser	Val	His	Asn	Lys	Thr	Gly	Ala	820	825	830
Lys	Leu	Pro	Val	Lys	Trp	Met	Ala	Leu	Glu	Ser	Leu	Gln	Thr	Gln	Lys	835	840	845
Phe	Thr	Thr	Lys	Ser	Asp	Val	Trp	Ser	Phe	Gly	Val	Val	Leu	Trp	Glu	850	855	860
Leu	Met	Thr	Arg	Gly	Ala	Pro	Pro	Tyr	Pro	Asp	Val	Asn	Thr	Phe	Asp	865	870	875
Ile	Thr	Val	Tyr	Leu	Leu	Gln	Gly	Arg	Arg	Leu	Leu	Gln	Pro	Glu	Tyr	885	890	895
Cys	Pro	Asp	Pro	Leu	Tyr	Glu	Val	Met	Leu	Lys	Cys	Trp	His	Pro	Lys	900	905	910
Ala	Glu	Met	Arg	Pro	Ser	Phe	Ser	Glu	Leu	Val	Ser	Arg	Ile	Ser	Ala	915	920	925
Ile	Phe	Ser	Thr	Phe	Ile	Gly	Glu	His	Tyr	Val	His	Val	Asn	Ala	Thr	930	935	940
Tyr	Val	Asn	Val	Lys	Cys	Val	Ala	Pro	Tyr	Pro	Ser	Leu	Leu	Ser	Ser	945	950	955
Glu	Asp	Asn	Ala	Asp	Asp	Glu	Val	Asp	Thr	Arg	Pro	Ala	Ser	Phe	Trp	965	970	975
Glu	Thr	Ser																

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 <211> 939
 <212> PRT
 <213> Homo sapiens

<400> 8

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			20					25					30		
Glu	Arg	Arg	His	Val	Ser	Ala	Gln	Leu	Glu	Arg	Val	Arg	Val	Ser	Pro
		35					40					45			
Gln	Asp	Ala	Asn	Pro	Leu	Met	Ala	Asn	Gly	Thr	Leu	Thr	Arg	Arg	His
	50					55					60				
Gln	Asn	Gly	Arg	Phe	Val	Gly	Asp	Ala	Asp	Leu	Glu	Arg	Gln	Lys	Phe
65					70					75					80
Ser	Asp	Leu	Lys	Leu	Asn	Gly	Pro	Gln	Asp	His	Ser	His	Leu	Leu	Tyr
				85					90					95	
Ser	Thr	Ile	Pro	Arg	Met	Gln	Glu	Pro	Gly	Gln	Ile	Val	Glu	Thr	Tyr
			100					105					110		
Thr	Glu	Glu	Asp	Pro	Glu	Gly	Ala	Met	Ser	Val	Val	Ser	Val	Glu	Thr
		115					120						125		
Ser	Asp	Asp	Gly	Thr	Thr	Arg	Arg	Thr	Glu	Thr	Thr	Val	Lys	Lys	Val
	130					135						140			
Val	Lys	Thr	Val	Thr	Thr	Arg	Thr	Val	Gln	Pro	Val	Ala	Met	Gly	Pro
145					150					155					160
Asp	Gly	Leu	Pro	Val	Asp	Ala	Ser	Ser	Val	Ser	Asn	Asn	Tyr	Ile	Gln
			165						170					175	
Thr	Leu	Gly	Arg	Asp	Phe	Arg	Lys	Asn	Gly	Asn	Gly	Gly	Pro	Gly	Pro
		180						185					190		
Tyr	Val	Gly	Gln	Ala	Gly	Thr	Ala	Thr	Leu	Pro	Arg	Asn	Phe	His	Tyr
		195					200					205			
Pro	Pro	Asp	Gly	Tyr	Ser	Arg	His	Tyr	Glu	Asp	Gly	Tyr	Pro	Gly	Gly
	210					215					220				
Ser	Asp	Asn	Tyr	Gly	Ser	Leu	Ser	Arg	Val	Thr	Arg	Ile	Glu	Glu	Arg
225					230					235					240
Tyr	Arg	Pro	Ser	Met	Glu	Gly	Tyr	Arg	Ala	Pro	Ser	Arg	Gln	Asp	Val
			245						250					255	
Tyr	Gly	Pro	Gln	Pro	Gln	Val	Arg	Val	Gly	Gly	Ser	Ser	Val	Asp	Leu
			260					265					270		
His	Arg	Phe	His	Pro	Glu	Pro	Tyr	Gly	Leu	Glu	Asp	Asp	Gln	Arg	Ser
		275					280					285			
Met	Gly	Tyr	Asp	Asp	Leu	Asp	Tyr	Gly	Met	Met	Ser	Asp	Tyr	Gly	Thr
	290					295					300				
Ala	Arg	Arg	Thr	Gly	Thr	Pro	Ser	Asp	Pro	Arg	Arg	Arg	Leu	Arg	Ser
305					310					315					320
Tyr	Glu	Asp	Met	Ile	Gly	Glu	Glu	Val	Pro	Ser	Asp	Gln	Tyr	Tyr	Trp
			325						330					335	
Ala	Pro	Leu	Ala	Gln	His	Glu	Arg	Gly	Ser	Leu	Ala	Ser	Leu	Asp	Ser
			340					345					350		
Leu	Arg	Lys	Gly	Gly	Pro	Pro	Pro	Pro	Asn	Trp	Arg	Gln	Pro	Glu	Leu
		355					360					365			

Pro	Glu	Val	Ile	Ala	Met	Leu	Gly	Phe	Arg	Leu	Asp	Ala	Val	Lys	Ser	370	375	380
Asn	Ala	Ala	Ala	Tyr	Leu	Gln	His	Leu	Cys	Tyr	Arg	Asn	Asp	Lys	Val	385	390	395
Lys	Thr	Asp	Val	Arg	Lys	Leu	Lys	Gly	Ile	Pro	Val	Leu	Val	Gly	Leu	405	410	415
Leu	Asp	His	Pro	Lys	Lys	Glu	Val	His	Leu	Gly	Ala	Cys	Gly	Ala	Leu	420	425	430
Lys	Asn	Ile	Ser	Phe	Gly	Arg	Asp	Gln	Asp	Asn	Lys	Ile	Ala	Ile	Lys	435	440	445
Asn	Cys	Asp	Gly	Val	Pro	Ala	Leu	Val	Arg	Leu	Leu	Arg	Lys	Ala	Arg	450	455	460
Asp	Met	Asp	Leu	Thr	Glu	Val	Ile	Thr	Gly	Thr	Leu	Trp	Asn	Leu	Ser	465	470	475
Ser	His	Asp	Ser	Ile	Lys	Met	Glu	Ile	Val	Asp	His	Ala	Leu	His	Ala	485	490	495
Leu	Thr	Asp	Glu	Val	Ile	Ile	Pro	His	Ser	Gly	Trp	Glu	Arg	Glu	Pro	500	505	510
Asn	Glu	Asp	Cys	Lys	Pro	Arg	His	Ile	Glu	Trp	Glu	Ser	Val	Leu	Thr	515	520	525
Asn	Thr	Ala	Gly	Cys	Leu	Arg	Asn	Val	Ser	Ser	Glu	Arg	Ser	Glu	Ala	530	535	540
Arg	Arg	Lys	Leu	Arg	Glu	Cys	Asp	Gly	Leu	Val	Asp	Ala	Leu	Ile	Phe	545	550	555
Ile	Val	Gln	Ala	Glu	Ile	Gly	Gln	Lys	Asp	Ser	Asp	Ser	Lys	Leu	Val	565	570	575
Glu	Asn	Cys	Val	Cys	Leu	Leu	Arg	Asn	Leu	Ser	Tyr	Gln	Val	His	Arg	580	585	590
Glu	Ile	Pro	Gln	Ala	Glu	Arg	Tyr	Gln	Glu	Ala	Ala	Pro	Asn	Val	Ala	595	600	605
Asn	Asn	Thr	Gly	Pro	His	Ala	Ala	Ser	Cys	Phe	Gly	Ala	Lys	Lys	Gly	610	615	620
Lys	Asp	Glu	Trp	Phe	Ser	Arg	Gly	Lys	Lys	Pro	Ile	Glu	Asp	Pro	Ala	625	630	635
Asn	Asp	Thr	Val	Asp	Phe	Pro	Lys	Arg	Thr	Ser	Pro	Ala	Arg	Gly	Tyr	645	650	655
Glu	Leu	Leu	Phe	Gln	Pro	Glu	Val	Val	Arg	Ile	Tyr	Ile	Ser	Leu	Leu	660	665	670
Lys	Glu	Ser	Lys	Thr	Pro	Ala	Ile	Leu	Glu	Ala	Ser	Ala	Gly	Ala	Ile	675	680	685
Gln	Asn	Leu	Cys	Ala	Gly	Arg	Trp	Thr	Tyr	Gly	Arg	Tyr	Ile	Arg	Ser	690	695	700
Ala	Leu	Arg	Gln	Glu	Lys	Ala	Leu	Ser	Ala	Ile	Ala	Asp	Leu	Leu	Thr	705	710	715
Asn	Glu	His	Glu	Arg	Val	Val	Lys	Ala	Ala	Ser	Gly	Ala	Leu	Arg	Asn	725	730	735
Leu	Ala	Val	Asp	Ala	Arg	Asn	Lys	Glu	Leu	Ile	Gly	Lys	His	Ala	Ile	740	745	750
Pro	Asn	Leu	Val	Lys	Asn	Leu	Pro	Gly	Gly	Gln	Gln	Asn	Ser	Ser	Trp	755	760	765
Asn	Phe	Ser	Glu	Asp	Thr	Val	Ile	Ser	Ile	Leu	Asn	Thr	Ile	Asn	Glu	770	775	780
Val	Ile	Ala	Glu	Asn	Leu	Glu	Ala	Ala	Lys	Lys	Leu	Arg	Glu	Thr	Gln	785	790	795
																		800

Gly	Ile	Glu	Lys	Leu	Val	Leu	Ile	Asn	Lys	Ser	Gly	Asn	Arg	Ser	Glu
				805					810					815	
Lys	Glu	Val	Arg	Ala	Ala	Ala	Leu	Val	Leu	Gln	Thr	Ile	Trp	Gly	Tyr
			820					825					830		
Lys	Glu	Leu	Arg	Lys	Pro	Leu	Glu	Lys	Glu	Gly	Trp	Lys	Lys	Ser	Asp
		835					840					845			
Phe	Gln	Val	Asn	Leu	Asn	Asn	Ala	Ser	Arg	Ser	Gln	Ser	Ser	His	Ser
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Tyr	Asp	Asp	Ser	Thr	Leu	Pro	Leu	Ile	Asp	Arg	Asn	Gln	Lys	Ser	Asp
865				870					875					880	
Lys	Lys	Pro	Asp	Arg	Glu	Glu	Ile	Gln	Met	Ser	Asn	Met	Gly	Ser	Asn
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Thr	Lys	Ser	Leu	Asp	Asn	Asn	Tyr	Ser	Thr	Pro	Asn	Glu	Arg	Gly	Asp
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His	Asn	Arg	Thr	Leu	Asp	Arg	Ser	Gly	Asp	Leu	Gly	Asp	Met	Glu	Pro
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Thr	Glu	Glu	Asp	Pro	Glu	Gly	Ala	Met	Ser	Val	Val	Ser	Val	Glu	Thr
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Ser	Asp	Asp	Gly	Thr	Thr	Arg	Arg	Thr	Glu	Thr	Thr	Val	Lys	Lys	Val
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Val	Lys	Thr	Val	Thr	Thr	Arg	Thr	Val	Gln	Pro	Val	Ala	Met	Gly	Pro
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Thr	Leu	Gly	Arg	Asp	Phe	Arg	Lys	Asn	Gly	Asn	Gly	Gly	Pro	Gly	Pro
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Tyr	Val	Gly	Gln	Ala	Gly	Thr	Ala	Thr	Leu	Pro	Arg	Asn	Phe	His	Tyr
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Pro	Pro	Asp	Gly	Tyr	Ser	Arg	His	Tyr	Glu	Asp	Gly	Tyr	Pro	Gly	Gly
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Tyr	Arg	Pro	Ser	Met	Glu	Gly	Tyr	Arg	Ala	Pro	Ser	Arg	Gln	Asp	Val
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His	Arg	Phe	His	Pro	Glu	Pro	Tyr	Gly	Leu	Glu	Asp	Asp	Gln	Arg	Ser
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Tyr	Glu	Asp	Met	Ile	Gly	Glu	Glu	Val	Pro	Ser	Asp	Gln	Tyr	Tyr	Trp
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Ala	Pro	Leu	Ala	Gln	His	Glu	Arg	Gly	Ser	Leu	Ala	Ser	Leu	Asp	Ser
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Pro	Glu	Val	Ile	Ala	Met	Leu	Gly	Phe	Arg	Leu	Asp	Ala	Val	Lys	Ser
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Lys	Thr	Asp	Val	Arg	Lys	Leu	Lys	Gly	Ile	Pro	Val	Leu	Val	Gly	Leu
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Ile	Val	Gln	Ala	Glu	Ile	Gly	Gln	Lys	Asp	Ser	Asp	Ser	Lys	Leu	Val
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Lys	Gly	Lys	Lys	Pro	Ile	Glu	Asp	Pro	Ala	Asn	Asp	Thr	Val	Asp	Phe
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Pro	Lys	Arg	Thr	Ser	Pro	Ala	Arg	Gly	Tyr	Glu	Leu	Leu	Phe	Gln	Pro
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 Ala Ile Leu Glu Ala Ser Ala Gly Ala Ile Gln Asn Leu Cys Ala Gly
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 Arg Trp Thr Tyr Gly Arg Tyr Ile Arg Ser Ala Leu Arg Gln Glu Lys
 690 695 700
 Ala Leu Ser Ala Ile Ala Asp Leu Leu Thr Asn Glu His Glu Arg Val
 705 710 715 720
 Val Lys Ala Ala Ser Gly Ala Leu Arg Asn Leu Ala Val Asp Ala Arg
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 Asn Lys Glu Leu Ile Gly Lys His Ala Ile Pro Asn Leu Val Lys Asn
 740 745 750
 Leu Pro Gly Gly Gln Gln Asn Ser Ser Trp Asn Phe Ser Glu Asp Thr
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 Leu Ile Asn Lys Ser Gly Asn Arg Ser Glu Lys Glu Val Arg Ala Ala
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 Ala Leu Val Leu Gln Thr Ile Trp Gly Tyr Lys Glu Leu Arg Lys Pro
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 Leu Glu Lys Glu Gly Trp Lys Lys Ser Asp Phe Gln Val Asn Leu Asn
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 Asn Ala Ser Arg Ser Gln Ser Ser His Ser Tyr Asp Asp Ser Thr Leu
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 Pro Leu Ile Asp Arg Asn Gln Lys Ser Asp Asn Asn Tyr Ser Thr Pro
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 Asn Glu Arg Gly Asp His Asn Arg Thr Leu Asp Arg Ser Gly Asp Leu
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 Gly Asp Met Glu Pro Leu Lys Gly Thr Pro Leu Met Gln Asp Glu
 900 905 910
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 35 40 45
 Gln Glu Pro Gly Gln Ile Val Glu Thr Tyr Thr Glu Glu Asp Pro Glu
 50 55 60
 Gly Ala Met Ser Val Val Ser Val Glu Thr Ser Asp Asp Gly Thr Thr
 65 70 75 80

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Arg	Thr	Val	Gln	Pro	Val	Ala	Met	Gly	Pro	Asp	Gly	Leu	Pro	Val	Asp		
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Ala	Ser	Ser	Val	Ser	Asn	Asn	Tyr	Ile	Gln	Thr	Leu	Gly	Arg	Asp	Phe		
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Arg	Lys	Asn	Gly	Asn	Gly	Gly	Pro	Gly	Pro	Tyr	Val	Gly	Gln	Ala	Gly		
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Thr	Ala	Thr	Leu	Pro	Arg	Asn	Phe	His	Tyr	Pro	Pro	Asp	Gly	Tyr	Ser		
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Gly	Tyr	Arg	Ala	Pro	Ser	Arg	Gln	Asp	Val	Tyr	Gly	Pro	Gln	Pro	Gln		
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Ala	Leu	Val	Arg	Leu	Leu	Arg	Lys	Ala	Arg	Asp	Met	Asp	Leu	Thr	Glu		
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Val	Ile	Thr	Gly	Thr	Leu	Trp	Asn	Leu	Ser	Ser	His	Asp	Ser	Ile	Lys		
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Met	Glu	Ile	Val	Asp	His	Ala	Leu	His	Ala	Leu	Thr	Asp	Glu	Val	Ile		
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Arg	Asn	Val	Ser	Ser	Glu	Arg	Ser	Glu	Ala	Arg	Arg	Lys	Leu	Arg	Glu		
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Gly 515	Gln 530	Lys 545	Asp 565	Ser 580	Asp 595	Ser 610	Lys 625	Leu 645	Val 660	Glu 675	Asn 690	Cys 705	Val 720	Cys 735	Leu 750
Leu 530	Arg 545	Asn 565	Leu 580	Ser 595	Tyr 610	Gln 625	Val 645	His 660	Arg 675	Glu 690	Ile 705	Pro 720	Gln 735	Ala 750	Glu 765
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Arg 580	Gly 595	Lys 610	Lys 625	Pro 645	Ile 660	Glu 675	Asp 690	Pro 705	Ala 720	Asn 735	Asp 750	Thr 765	Val 780	Val 795	Phe 810
Pro 595	Lys 610	Arg 625	Thr 645	Ser 660	Pro 675	Ala 690	Arg 705	Gly 720	Tyr 735	Glu 750	Leu 765	Leu 780	Phe 795	Gln 810	Pro 825
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Glu 740	Ala 755	Ala 770	Lys 785	Lys 800	Leu 815	Arg 830	Glu 845	Thr 860	Gln 875	Gly 890	Ile 905	Glu 920	Lys 935	Leu 950	Val 965
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Leu 785	Glu 800	Lys 815	Glu 830	Gly 845	Trp 860	Lys 875	Lys 890	Ser 905	Asp 920	Phe 935	Gln 950	Val 965	Asn 980	Leu 995	Asn 1010
Asn 805	Ala 820	Ser 835	Arg 850	Ser 865	Gln 880	Ser 895	Ser 910	His 925	Ser 940	Tyr 955	Asp 970	Asp 985	Ser 1000	Thr 1015	Leu 1030
Pro 820	Leu 835	Ile 850	Asp 865	Arg 880	Asn 895	Gln 910	Lys 925	Ser 940	Asp 955	Lys 970	Lys 985	Pro 1000	Asp 1015	Arg 1030	Glu 1045
Glu 835	Ile 850	Gln 865	Met 880	Ser 895	Asn 910	Met 925	Gly 940	Ser 955	Asn 970	Thr 985	Lys 1000	Ser 1015	Leu 1030	Asp 1045	Asn 1060
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Thr	Arg	Arg	Thr	Glu	Thr	Thr	Val	Lys	Lys	Val	Val	Lys	Thr	Val	Thr
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Phe	Arg	Lys	Asn	Gly	Asn	Gly	Gly	Pro	Gly	Pro	Tyr	Val	Gly	Gln	Ala
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Ser	Arg	His	Tyr	Glu	Asp	Gly	Tyr	Pro	Gly	Gly	Ser	Asp	Asn	Tyr	Gly
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Ser	Leu	Ser	Arg	Val	Thr	Arg	Ile	Glu	Glu	Arg	Tyr	Arg	Pro	Ser	Met
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Glu	Gly	Tyr	Arg	Ala	Pro	Ser	Arg	Gln	Asp	Val	Tyr	Gly	Pro	Gln	Pro
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Gln	Val	Arg	Val	Gly	Gly	Ser	Ser	Val	Asp	Leu	His	Arg	Phe	His	Pro
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Glu	Pro	Tyr	Gly	Leu	Glu	Asp	Asp	Gln	Arg	Ser	Met	Gly	Tyr	Asp	Asp
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Pro	Pro	Pro	Pro	Asn	Trp	Arg	Gln	Pro	Glu	Leu	Pro	Glu	Val	Ile	Ala
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Met	Leu	Gly	Phe	Arg	Leu	Asp	Ala	Val	Lys	Ser	Asn	Ala	Ala	Ala	Tyr
	275				280						285				
Leu	Gln	His	Leu	Cys	Tyr	Arg	Asn	Asp	Lys	Val	Lys	Thr	Asp	Val	Arg
290					295						300				
Lys	Leu	Lys	Gly	Ile	Pro	Val	Leu	Val	Gly	Leu	Leu	Asp	His	Pro	Lys
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Lys	Glu	Val	His	Leu	Gly	Ala	Cys	Gly	Ala	Leu	Lys	Asn	Ile	Ser	Phe
			325					330					335		
Gly	Arg	Asp	Gln	Asp	Asn	Lys	Ile	Ala	Ile	Lys	Asn	Cys	Asp	Gly	Val
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Pro	Ala	Leu	Val	Arg	Leu	Leu	Arg	Lys	Ala	Arg	Asp	Met	Asp	Leu	Thr
	355					360					365				
Glu	Val	Ile	Thr	Gly	Thr	Leu	Trp	Asn	Leu	Ser	Ser	His	Asp	Ser	Ile
370					375						380				

Lys	Met	Glu	Ile	Val	Asp	His	Ala	Leu	His	Ala	Leu	Thr	Asp	Glu	Val	385	390	395	400
Ile	Ile	Pro	His	Ser	Gly	Trp	Glu	Arg	Glu	Pro	Asn	Glu	Asp	Cys	Lys	405	410		415
Pro	Arg	His	Ile	Glu	Trp	Glu	Ser	Val	Leu	Thr	Asn	Thr	Ala	Gly	Cys	420	425		430
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Ile	Gly	Gln	Lys	Asp	Ser	Asp	Ser	Lys	Leu	Val	Glu	Asn	Cys	Val	Cys	465	470		480
Leu	Leu	Arg	Asn	Leu	Ser	Tyr	Gln	Val	His	Arg	Glu	Ile	Pro	Gln	Ala	485	490		495
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His	Ala	Ala	Ser	Cys	Phe	Gly	Ala	Lys	Lys	Gly	Lys	Gly	Lys	Lys	Pro	515	520		525
Ile	Glu	Asp	Pro	Ala	Asn	Asp	Thr	Val	Asp	Phe	Pro	Lys	Arg	Thr	Ser	530	535		540
Pro	Ala	Arg	Gly	Tyr	Glu	Leu	Leu	Phe	Gln	Pro	Glu	Val	Val	Arg	Ile	545	550		560
Tyr	Ile	Ser	Leu	Leu	Lys	Glu	Ser	Lys	Thr	Pro	Ala	Ile	Leu	Glu	Ala	565	570		575
Ser	Ala	Gly	Ala	Ile	Gln	Asn	Leu	Cys	Ala	Gly	Arg	Trp	Thr	Tyr	Gly	580	585		590
Arg	Tyr	Ile	Arg	Ser	Ala	Leu	Arg	Gln	Glu	Lys	Ala	Leu	Ser	Ala	Ile	595	600		605
Ala	Asp	Leu	Leu	Thr	Asn	Glu	His	Glu	Arg	Val	Val	Lys	Ala	Ala	Ser	610	615		620
Gly	Ala	Leu	Arg	Asn	Leu	Ala	Val	Asp	Ala	Arg	Asn	Lys	Glu	Leu	Ile	625	630		640
Gly	Lys	His	Ala	Ile	Pro	Asn	Leu	Val	Lys	Asn	Leu	Pro	Gly	Gly	Gln	645	650		655
Gln	Asn	Ser	Ser	Trp	Asn	Phe	Ser	Glu	Asp	Thr	Val	Ile	Ser	Ile	Leu	660	665		670
Asn	Thr	Ile	Asn	Glu	Val	Ile	Ala	Glu	Asn	Leu	Glu	Ala	Ala	Lys	Lys	675	680		685
Leu	Arg	Glu	Thr	Gln	Gly	Ile	Glu	Lys	Leu	Val	Leu	Ile	Asn	Lys	Ser	690	695		700
Gly	Asn	Arg	Ser	Glu	Lys	Glu	Val	Arg	Ala	Ala	Ala	Leu	Val	Leu	Gln	705	710		720
Thr	Ile	Trp	Gly	Tyr	Lys	Glu	Leu	Arg	Lys	Pro	Leu	Glu	Lys	Glu	Gly	725	730		735
Trp	Lys	Lys	Ser	Asp	Phe	Gln	Val	Asn	Leu	Asn	Asn	Ala	Ser	Arg	Ser	740	745		750
Gln	Ser	Ser	His	Ser	Tyr	Asp	Asp	Ser	Thr	Leu	Pro	Leu	Ile	Asp	Arg	755	760		765
Asn	Gln	Lys	Ser	Asp	Lys	Lys	Pro	Asp	Arg	Glu	Glu	Ile	Gln	Met	Ser	770	775		780
Asn	Met	Gly	Ser	Asn	Thr	Lys	Ser	Leu	Asp	Asn	Asn	Tyr	Ser	Thr	Pro	785	790		800
Asn	Glu	Arg	Gly	Asp	His	Asn	Arg	Thr	Leu	Asp	Arg	Ser	Gly	Asp	Leu	805	810		815

Gly Asp Met Glu Pro Leu Lys Gly Thr Thr Pro Leu Met Gln Asp Glu
 820 825 830
 Gly Gln Glu Ser Leu Glu Glu Glu Leu Asp Val Leu Val Leu Asp Asp
 835 840 845
 Glu Gly Gly Gln Val Ser Tyr Pro Ser Met Gln Lys Ile
 850 855 860

<210> 12
 <211> 645
 <212> PRT
 <213> Homo sapiens

<400> 12
 Met Ile Gly Glu Glu Val Pro Ser Asp Gln Tyr Tyr Trp Ala Pro Leu
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 Ala Gln His Glu Arg Gly Ser Leu Ala Ser Leu Asp Ser Leu Arg Lys
 20 25 30
 Gly Gly Pro Pro Pro Pro Asn Trp Arg Gln Pro Glu Leu Pro Glu Val
 35 40 45
 Ile Ala Met Leu Gly Phe Arg Leu Asp Ala Val Lys Ser Asn Ala Ala
 50 55 60
 Ala Tyr Leu Gln His Leu Cys Tyr Arg Asn Asp Lys Val Lys Thr Asp
 65 70 75 80
 Val Arg Lys Leu Lys Gly Ile Pro Val Leu Val Gly Leu Leu Asp His
 85 90 95
 Pro Lys Lys Glu Val His Leu Gly Ala Cys Gly Ala Leu Lys Asn Ile
 100 105 110
 Ser Phe Gly Arg Asp Gln Asp Asn Lys Ile Ala Ile Lys Asn Cys Asp
 115 120 125
 Gly Val Pro Ala Leu Val Arg Leu Leu Arg Lys Ala Arg Asp Met Asp
 130 135 140
 Leu Thr Glu Val Ile Thr Gly Thr Leu Trp Asn Leu Ser Ser His Asp
 145 150 155 160
 Ser Ile Lys Met Glu Ile Val Asp His Ala Leu His Ala Leu Thr Asp
 165 170 175
 Glu Val Ile Ile Pro His Ser Gly Trp Glu Arg Glu Pro Asn Glu Asp
 180 185 190
 Cys Lys Pro Arg His Ile Glu Trp Glu Ser Val Leu Thr Asn Thr Ala
 195 200 205
 Gly Cys Leu Arg Asn Val Ser Ser Glu Arg Ser Glu Ala Arg Arg Lys
 210 215 220
 Leu Arg Glu Cys Asp Gly Leu Val Asp Ala Leu Ile Phe Ile Val Gln
 225 230 235 240
 Ala Glu Ile Gly Gln Lys Asp Ser Asp Ser Lys Leu Val Glu Asn Cys
 245 250 255
 Val Cys Leu Leu Arg Asn Leu Ser Tyr Gln Val His Arg Glu Ile Pro
 260 265 270
 Gln Ala Glu Arg Tyr Gln Glu Ala Pro Asn Val Ala Asn Asn Thr
 275 280 285
 Gly Pro His Ala Ala Ser Cys Phe Gly Ala Lys Lys Gly Lys Asp Glu
 290 295 300
 Trp Phe Ser Arg Gly Lys Lys Pro Ile Glu Asp Pro Ala Asn Asp Thr
 305 310 315 320

[illegible]

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<210> 13
<211> 694
<212> PRT
<213> Homo sapiens
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Pro Glu Lys Lys Leu Lys Arg Tyr Ala Trp Lys Arg Arg Trp Phe Val
20 25 30

Leu	Arg	Ser	Gly	Arg	Leu	Thr	Gly	Asp	Pro	Asp	Val	Leu	Glu	Tyr	Tyr		
		35					40					45					
Lys	Asn	Asp	His	Ala	Lys	Lys	Pro	Ile	Arg	Ile	Ile	Asp	Leu	Asn	Leu		
	50					55					60						
Cys	Gln	Gln	Val	Asp	Ala	Gly	Leu	Thr	Phe	Asn	Lys	Lys	Glu	Phe	Glu		
65					70					75					80		
Asn	Ser	Tyr	Ile	Phe	Asp	Ile	Asn	Thr	Ile	Asp	Arg	Ile	Phe	Tyr	Leu		
				85					90					95			
Val	Ala	Asp	Ser	Glu	Glu	Glu	Met	Asn	Lys	Trp	Val	Arg	Cys	Ile	Cys		
			100					105					110				
Asp	Ile	Cys	Gly	Phe	Asn	Pro	Thr	Glu	Glu	Asp	Pro	Val	Lys	Pro	Pro		
	115						120					125					
Gly	Ser	Ser	Leu	Gln	Ala	Pro	Ala	Asp	Leu	Pro	Leu	Ala	Ile	Asn	Thr		
	130					135					140						
Ala	Pro	Pro	Ser	Thr	Gln	Ala	Asp	Ser	Ser	Ser	Ala	Thr	Leu	Pro	Pro		
145					150					155					160		
Pro	Tyr	Gln	Leu	Ile	Asn	Val	Pro	Pro	His	Leu	Glu	Thr	Leu	Gly	Ile		
				165					170					175			
Gln	Glu	Asp	Pro	Gln	Asp	Tyr	Leu	Leu	Leu	Ile	Asn	Cys	Gln	Ser	Lys		
			180				185					190					
Lys	Pro	Glu	Pro	Thr	Arg	Thr	His	Ala	Asp	Ser	Gly	Lys	Ser	Thr	Ser		
	195					200					205						
Ser	Glu	Thr	Asp	Ser	Asn	Asp	Asn	Val	Pro	Ser	His	Lys	Asn	Pro	Ala		
	210				215					220							
Ser	Ser	Gln	Ser	Lys	His	Gly	Met	Asn	Gly	Phe	Phe	Gln	Gln	Gln	Met		
225				230						235					240		
Ile	Tyr	Asp	Ser	Pro	Pro	Ser	Arg	Ala	Pro	Ser	Ala	Ser	Val	Asp	Ser		
			245					250						255			
Ser	Leu	Tyr	Asn	Leu	Pro	Arg	Ser	Tyr	Ser	His	Asp	Val	Leu	Pro	Lys		
	260						265					270					
Val	Ser	Pro	Ser	Ser	Thr	Glu	Ala	Asp	Gly	Glu	Leu	Tyr	Val	Phe	Asn		
	275					280					285						
Thr	Pro	Ser	Gly	Thr	Ser	Ser	Val	Glu	Thr	Gln	Met	Arg	His	Val	Ser		
	290				295					300							
Ile	Ser	Tyr	Asp	Ile	Pro	Pro	Thr	Pro	Gly	Asn	Thr	Tyr	Gln	Ile	Pro		
305				310					315						320		
Arg	Thr	Phe	Pro	Glu	Gly	Thr	Leu	Gly	Gln	Thr	Ser	Lys	Leu	Asp	Thr		
			325					330						335			
Ile	Pro	Asp	Ile	Pro	Pro	Pro	Arg	Pro	Pro	Lys	Pro	His	Pro	Ala	His		
			340				345					350					
Asp	Arg	Ser	Pro	Val	Glu	Thr	Cys	Ser	Ile	Pro	Arg	Thr	Ala	Ser	Asp		
	355					360					365						
Thr	Asp	Ser	Ser	Tyr	Cys	Ile	Pro	Thr	Ala	Gly	Met	Ser	Pro	Ser	Arg		
	370				375					380							
Ser	Asn	Thr	Ile	Ser	Thr	Val	Asp	Leu	Asn	Lys	Leu	Arg	Lys	Asp	Ala		
385				390					395						400		
Ser	Ser	Gln	Asp	Cys	Tyr	Asp	Ile	Pro	Arg	Ala	Phe	Pro	Ser	Asp	Arg		
			405					410						415			
Ser	Ser	Ser	Leu	Glu	Gly	Phe	His	Asn	His	Phe	Lys	Val	Lys	Asn	Val		
			420				425					430					
Leu	Thr	Val	Gly	Ser	Val	Ser	Ser	Glu	Glu	Leu	Asp	Glu	Asn	Tyr	Val		
	435					440					445						
Pro	Met	Asn	Pro	Asn	Ser	Pro	Pro	Arg	Gln	His	Ser	Ser	Ser	Phe	Thr		
	450					455					460						

Glu Pro Ile Gln Glu Ala Asn Tyr Val Pro Met Thr Pro Gly Thr Phe
 465 470 475 480
 Asp Phe Ser Ser Phe Gly Met Gln Val Pro Pro Pro Ala His Met Gly
 485 490 495
 Phe Arg Ser Ser Pro Lys Thr Pro Pro Arg Arg Pro Val Pro Val Ala
 500 505 510
 Asp Cys Glu Pro Pro Pro Val Asp Arg Asn Leu Lys Pro Asp Arg Lys
 515 520 525
 Val Lys Pro Ala Pro Leu Glu Ile Lys Pro Leu Pro Glu Trp Glu Glu
 530 535 540
 Leu Gln Ala Pro Val Arg Ser Pro Ile Thr Arg Ser Phe Ala Arg Asp
 545 550 555 560
 Ser Ser Arg Phe Pro Met Ser Pro Arg Pro Asp Ser Val His Ser Thr
 565 570 575
 Thr Ser Ser Ser Asp Ser His Asp Ser Glu Glu Asn Tyr Val Pro Met
 580 585 590
 Asn Pro Asn Leu Ser Ser Glu Asp Pro Asn Leu Phe Gly Ser Asn Ser
 595 600 605
 Leu Asp Gly Gly Ser Ser Pro Met Ile Lys Pro Lys Gly Asp Lys Gln
 610 615 620
 Val Glu Tyr Leu Asp Leu Asp Leu Asp Ser Gly Lys Ser Thr Pro Pro
 625 630 635 640
 Arg Lys Gln Lys Ser Ser Gly Ser Gly Ser Ser Val Ala Asp Glu Arg
 645 650 655
 Val Asp Tyr Val Val Val Asp Gln Gln Lys Thr Leu Ala Leu Lys Ser
 660 665 670
 Thr Arg Glu Ala Trp Thr Asp Gly Arg Gln Ser Thr Glu Ser Glu Thr
 675 680 685
 Pro Ala Lys Ser Val Lys
 690

<210> 14
 <211> 745
 <212> PRT
 <213> Homo sapiens

<400> 14
 Met Glu Val Met Asn Leu Met Glu Gln Pro Ile Lys Val Thr Glu Trp
 1 5 10 15
 Gln Gln Thr Tyr Thr Tyr Asp Ser Gly Ile His Ser Gly Ala Asn Thr
 20 25 30
 Cys Val Pro Ser Val Ser Ser Lys Gly Ile Met Glu Glu Asp Glu Ala
 35 40 45
 Cys Gly Arg Gln Tyr Thr Leu Lys Lys Thr Thr Thr Tyr Thr Gln Gly
 50 55 60
 Val Pro Pro Ser Gln Gly Asp Leu Glu Tyr Gln Met Ser Thr Thr Ala
 65 70 75 80
 Arg Ala Lys Arg Val Arg Glu Ala Met Cys Pro Gly Val Ser Gly Glu
 85 90 95
 Asp Ser Ser Leu Leu Leu Ala Thr Gln Val Glu Gly Gln Ala Thr Asn
 100 105 110
 Leu Gln Arg Leu Ala Glu Pro Ser Gln Leu Leu Lys Ser Ala Ile Val
 115 120 125

His	Leu	Ile	Asn	Tyr	Gln	Asp	Asp	Ala	Glu	Leu	Ala	Thr	Arg	Ala	Leu
130						135					140				
Pro	Glu	Leu	Thr	Lys	Leu	Leu	Asn	Asp	Glu	Asp	Pro	Val	Val	Val	Thr
145					150					155					160
Lys	Ala	Ala	Met	Ile	Val	Asn	Gln	Leu	Ser	Lys	Lys	Glu	Ala	Ser	Arg
				165					170					175	
Arg	Ala	Leu	Met	Gly	Ser	Pro	Gln	Leu	Val	Ala	Ala	Val	Val	Arg	Thr
			180					185					190		
Met	Gln	Asn	Thr	Ser	Asp	Leu	Asp	Thr	Ala	Arg	Cys	Thr	Thr	Ser	Ile
	195						200					205			
Leu	His	Asn	Leu	Ser	His	His	Arg	Glu	Gly	Leu	Leu	Ala	Ile	Phe	Lys
	210					215					220				
Ser	Gly	Gly	Ile	Pro	Ala	Leu	Val	Arg	Met	Leu	Ser	Ser	Pro	Val	Glu
225					230					235					240
Ser	Val	Leu	Phe	Tyr	Ala	Ile	Thr	Thr	Leu	His	Asn	Leu	Leu	Leu	Tyr
				245					250					255	
Gln	Glu	Gly	Ala	Lys	Met	Ala	Val	Arg	Leu	Ala	Asp	Gly	Leu	Gln	Lys
			260					265					270		
Met	Val	Pro	Leu	Leu	Asn	Lys	Asn	Asn	Pro	Lys	Phe	Leu	Ala	Ile	Thr
	275						280					285			
Thr	Asp	Cys	Leu	Gln	Leu	Leu	Ala	Tyr	Gly	Asn	Gln	Glu	Ser	Lys	Leu
	290					295					300				
Ile	Ile	Leu	Ala	Asn	Gly	Gly	Pro	Gln	Ala	Leu	Val	Gln	Ile	Met	Arg
305					310					315					320
Asn	Tyr	Ser	Tyr	Glu	Lys	Leu	Leu	Trp	Thr	Thr	Ser	Arg	Val	Leu	Lys
				325					330					335	
Val	Leu	Ser	Val	Cys	Pro	Ser	Asn	Lys	Pro	Ala	Ile	Val	Glu	Ala	Gly
			340					345					350		
Gly	Met	Gln	Ala	Leu	Gly	Lys	His	Leu	Thr	Ser	Asn	Ser	Pro	Arg	Leu
	355						360					365			
Val	Gln	Asn	Cys	Leu	Trp	Thr	Leu	Arg	Asn	Leu	Ser	Asp	Val	Ala	Thr
	370					375					380				
Lys	Gln	Glu	Gly	Leu	Glu	Ser	Val	Leu	Lys	Ile	Leu	Val	Asn	Gln	Leu
385					390					395					400
Ser	Val	Asp	Asp	Val	Asn	Val	Leu	Thr	Cys	Ala	Thr	Gly	Thr	Leu	Ser
				405					410					415	
Asn	Leu	Thr	Cys	Asn	Asn	Ser	Lys	Asn	Lys	Thr	Leu	Val	Thr	Gln	Asn
			420					425					430		
Ser	Gly	Val	Glu	Ala	Leu	Ile	His	Ala	Ile	Leu	Arg	Ala	Gly	Asp	Lys
			435				440					445			
Asp	Asp	Ile	Thr	Glu	Pro	Ala	Val	Cys	Ala	Leu	Arg	His	Leu	Thr	Ser
	450					455					460				
Arg	His	Pro	Glu	Ala	Glu	Met	Ala	Gln	Asn	Ser	Val	Arg	Leu	Asn	Tyr
465					470					475					480
Gly	Ile	Pro	Ala	Ile	Val	Lys	Leu	Leu	Asn	Gln	Pro	Asn	Gln	Trp	Pro
				485					490					495	
Leu	Val	Lys	Ala	Thr	Ile	Gly	Leu	Ile	Arg	Asn	Leu	Ala	Leu	Cys	Pro
			500					505					510		
Ala	Asn	His	Ala	Pro	Leu	Gln	Glu	Ala	Ala	Val	Ile	Pro	Arg	Leu	Val
		515					520					525			
Gln	Leu	Leu	Val	Lys	Ala	His	Gln	Asp	Ala	Gln	Arg	His	Val	Ala	Ala
	530					535					540				
Gly	Thr	Gln	Gln	Pro	Tyr	Thr	Asp	Gly	Val	Arg	Met	Glu	Glu	Ile	Val
545					550					555					560

Glu	Gly	Cys	Thr	Gly	Ala	Leu	His	Ile	Leu	Ala	Arg	Asp	Pro	Met	Asn
				565					570					575	
Arg	Met	Glu	Ile	Phe	Arg	Leu	Asn	Thr	Ile	Pro	Leu	Phe	Val	Gln	Leu
			580					585					590		
Leu	Tyr	Ser	Ser	Val	Glu	Asn	Ile	Gln	Arg	Val	Ala	Ala	Gly	Val	Leu
		595					600					605			
Cys	Glu	Leu	Ala	Gln	Asp	Lys	Glu	Ala	Ala	Asp	Ala	Ile	Asp	Ala	Glu
	610					615					620				
Gly	Ala	Ser	Ala	Pro	Leu	Met	Glu	Leu	Leu	His	Ser	Arg	Asn	Glu	Gly
625					630					635				640	
Thr	Ala	Thr	Tyr	Ala	Ala	Ala	Val	Leu	Phe	Arg	Ile	Ser	Glu	Asp	Lys
				645					650					655	
Asn	Pro	Asp	Tyr	Arg	Lys	Arg	Val	Ser	Val	Glu	Leu	Thr	Asn	Ser	Leu
			660					665					670		
Phe	Lys	His	Asp	Pro	Ala	Ala	Trp	Glu	Ala	Ala	Gln	Ser	Met	Ile	Pro
		675					680					685			
Ile	Asn	Glu	Pro	Tyr	Gly	Asp	Asp	Leu	Asp	Ala	Thr	Tyr	Arg	Pro	Met
	690					695					700				
Tyr	Ser	Ser	Asp	Val	Pro	Leu	Asp	Pro	Leu	Glu	Met	His	Met	Asp	Met
705					710					715				720	
Asp	Gly	Asp	Tyr	Pro	Ile	Asp	Thr	Tyr	Ser	Asp	Gly	Leu	Arg	Pro	Pro
				725					730					735	
Tyr	Pro	Thr	Ala	Asp	His	Met	Leu	Ala							
			740					745							

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<210> 15
<211> 745
<212> PRT
<213> Homo sapiens
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<400> 15															
Met	Glu	Val	Met	Asn	Leu	Met	Glu	Gln	Pro	Ile	Lys	Val	Thr	Glu	Trp
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Gln	Gln	Thr	Tyr	Thr	Tyr	Asp	Ser	Gly	Ile	His	Ser	Gly	Ala	Asn	Thr
			20					25					30		
Cys	Val	Pro	Ser	Val	Ser	Ser	Lys	Gly	Ile	Met	Glu	Glu	Asp	Glu	Ala
		35					40					45			
Cys	Gly	Arg	Gln	Tyr	Thr	Leu	Lys	Lys	Thr	Thr	Thr	Tyr	Thr	Gln	Gly
	50					55					60				
Val	Pro	Pro	Ser	Gln	Gly	Asp	Leu	Glu	Tyr	Gln	Met	Ser	Thr	Thr	Ala
65					70					75					80
Arg	Ala	Lys	Arg	Val	Arg	Glu	Ala	Met	Cys	Pro	Gly	Val	Ser	Gly	Glu
				85					90					95	
Asp	Ser	Ser	Leu	Leu	Leu	Ala	Thr	Gln	Val	Glu	Gly	Gln	Ala	Thr	Asn
			100					105					110		
Leu	Gln	Arg	Leu	Ala	Glu	Pro	Ser	Gln	Leu	Leu	Lys	Ser	Ala	Ile	Val
		115					120					125			
His	Leu	Ile	Asn	Tyr	Gln	Asp	Asp	Ala	Glu	Leu	Ala	Thr	Arg	Ala	Leu
	130					135					140				
Pro	Glu	Leu	Thr	Lys	Leu	Leu	Asn	Asp	Glu	Asp	Pro	Val	Val	Val	Thr
145					150					155					160
Lys	Ala	Ala	Met	Ile	Val	Asn	Gln	Leu	Ser	Lys	Lys	Glu	Ala	Ser	Arg
				165					170					175	

Arg	Ala	Leu	Met	Gly	Ser	Pro	Gln	Leu	Val	Ala	Ala	Val	Val	Arg	Thr		
			180					185					190				
Met	Gln	Asn	Thr	Ser	Asp	Leu	Asp	Thr	Ala	Arg	Cys	Thr	Thr	Ser	Ile		
		195					200					205					
Leu	His	Asn	Leu	Ser	His	His	Arg	Glu	Gly	Leu	Leu	Ala	Ile	Phe	Lys		
	210					215					220						
Ser	Gly	Gly	Ile	Pro	Ala	Leu	Val	Arg	Met	Leu	Ser	Ser	Pro	Val	Glu		
225					230					235					240		
Ser	Val	Leu	Phe	Tyr	Ala	Ile	Thr	Thr	Leu	His	Asn	Leu	Leu	Leu	Tyr		
			245						250					255			
Gln	Glu	Gly	Ala	Lys	Met	Ala	Val	Arg	Leu	Ala	Asp	Gly	Leu	Gln	Lys		
		260						265					270				
Met	Val	Pro	Leu	Leu	Asn	Lys	Asn	Asn	Pro	Lys	Phe	Leu	Ala	Ile	Thr		
		275					280					285					
Thr	Asp	Cys	Leu	Gln	Leu	Leu	Ala	Tyr	Gly	Asn	Gln	Glu	Ser	Lys	Leu		
	290					295					300						
Ile	Ile	Leu	Ala	Asn	Gly	Gly	Pro	Gln	Ala	Leu	Val	Gln	Ile	Met	Arg		
305					310					315					320		
Asn	Tyr	Ser	Tyr	Glu	Lys	Leu	Leu	Trp	Thr	Thr	Ser	Arg	Val	Leu	Lys		
			325						330					335			
Val	Leu	Ser	Val	Cys	Pro	Ser	Asn	Lys	Pro	Ala	Ile	Val	Glu	Ala	Gly		
			340					345					350				
Gly	Met	Gln	Ala	Leu	Gly	Lys	His	Leu	Thr	Ser	Asn	Ser	Pro	Arg	Leu		
		355				360						365					
Val	Gln	Asn	Cys	Leu	Trp	Thr	Leu	Arg	Asn	Leu	Ser	Asp	Val	Ala	Thr		
	370					375					380						
Lys	Gln	Glu	Gly	Leu	Glu	Ser	Val	Leu	Lys	Ile	Leu	Val	Asn	Gln	Leu		
385					390					395					400		
Ser	Val	Asp	Asp	Val	Asn	Val	Leu	Thr	Cys	Ala	Thr	Gly	Thr	Leu	Ser		
			405						410					415			
Asn	Leu	Thr	Cys	Asn	Asn	Ser	Lys	Asn	Lys	Thr	Leu	Val	Thr	Gln	Asn		
			420					425					430				
Ser	Gly	Val	Glu	Ala	Leu	Ile	His	Ala	Ile	Leu	Arg	Ala	Gly	Asp	Lys		
		435					440					445					
Asp	Asp	Ile	Thr	Glu	Pro	Ala	Val	Cys	Ala	Leu	Arg	His	Leu	Thr	Ser		
	450					455					460						
Arg	His	Pro	Glu	Ala	Glu	Met	Ala	Gln	Asn	Ser	Val	Arg	Leu	Asn	Tyr		
465					470					475					480		
Gly	Ile	Pro	Ala	Ile	Val	Lys	Leu	Leu	Asn	Gln	Pro	Asn	Gln	Trp	Pro		
			485						490					495			
Leu	Val	Lys	Ala	Thr	Ile	Gly	Leu	Ile	Arg	Asn	Leu	Ala	Leu	Cys	Pro		
		500						505					510				
Ala	Asn	His	Ala	Pro	Leu	Gln	Glu	Ala	Ala	Val	Ile	Pro	Arg	Leu	Val		
	515						520						525				
Gln	Leu	Leu	Val	Lys	Ala	His	Gln	Asp	Ala	Gln	Arg	His	Val	Ala	Ala		
	530					535					540						
Gly	Thr	Gln	Gln	Pro	Tyr	Thr	Asp	Gly	Val	Arg	Met	Glu	Glu	Ile	Val		
545					550					555					560		
Glu	Gly	Cys	Thr	Gly	Ala	Leu	His	Ile	Leu	Ala	Arg	Asp	Pro	Met	Asn		
			565						570					575			
Arg	Met	Glu	Ile	Phe	Arg	Leu	Asn	Thr	Ile	Pro	Leu	Phe	Val	Gln	Leu		
			580					585					590				
Leu	Tyr	Ser	Ser	Val	Glu	Asn	Ile	Gln	Arg	Val	Ala	Ala	Gly	Val	Leu		
		595					600						605				

Cys Glu Leu Ala Gln Asp Lys Glu Ala Ala Asp Ala Ile Asp Ala Glu
 610 615 620
 Gly Ala Ser Ala Pro Leu Met Glu Leu Leu His Ser Arg Asn Glu Gly
 625 630 635 640
 Thr Ala Thr Tyr Ala Ala Ala Val Leu Phe Arg Ile Ser Glu Asp Lys
 645 650 655
 Asn Pro Asp Tyr Arg Lys Arg Val Ser Val Glu Leu Thr Asn Ser Leu
 660 665 670
 Phe Lys His Asp Pro Ala Ala Trp Glu Ala Ala Gln Ser Met Ile Pro
 675 680 685
 Ile Asn Glu Pro Tyr Gly Asp Asp Met Asp Ala Thr Tyr Arg Pro Met
 690 695 700
 Tyr Ser Ser Asp Val Pro Leu Asp Pro Leu Glu Met His Met Asp Met
 705 710 715 720
 Asp Gly Asp Tyr Pro Ile Asp Thr Tyr Ser Asp Gly Leu Arg Pro Pro
 725 730 735
 Tyr Pro Thr Ala Asp His Met Leu Ala
 740 745

<210> 16
 <211> 781
 <212> PRT
 <213> Homo sapiens

<400> 16
 Met Ala Thr Gln Ala Asp Leu Met Glu Leu Asp Met Ala Met Glu Pro
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 Asp Arg Lys Ala Ala Val Ser His Trp Gln Gln Gln Ser Tyr Leu Asp
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 Ser Gly Ile His Ser Gly Ala Thr Thr Ala Pro Ser Leu Ser Gly
 35 40 45
 Lys Gly Asn Pro Glu Glu Glu Asp Val Asp Thr Ser Gln Val Leu Tyr
 50 55 60
 Glu Trp Glu Gln Gly Phe Ser Gln Ser Phe Thr Gln Glu Gln Val Ala
 65 70 75 80
 Asp Ile Asp Gly Gln Tyr Ala Met Thr Arg Ala Gln Arg Val Arg Ala
 85 90 95
 Ala Met Phe Pro Glu Thr Leu Asp Glu Gly Met Gln Ile Pro Ser Thr
 100 105 110
 Gln Phe Asp Ala Ala His Pro Thr Asn Val Gln Arg Leu Ala Glu Pro
 115 120 125
 Ser Gln Met Leu Lys His Ala Val Val Asn Leu Ile Asn Tyr Gln Asp
 130 135 140
 Asp Ala Glu Leu Ala Thr Arg Ala Ile Pro Glu Leu Thr Lys Leu Leu
 145 150 155 160
 Asn Asp Glu Asp Gln Val Val Val Asn Lys Ala Ala Val Met Val His
 165 170 175
 Gln Leu Ser Lys Glu Ala Ser Arg His Ala Ile Met Arg Ser Pro
 180 185 190
 Gln Met Val Ser Ala Ile Val Arg Thr Met Gln Asn Thr Asn Asp Val
 195 200 205
 Glu Thr Ala Arg Cys Thr Ala Gly Thr Leu His Asn Leu Ser His His
 210 215 220

Arg	Glu	Gly	Leu	Leu	Ala	Ile	Phe	Lys	Ser	Gly	Gly	Ile	Pro	Ala	Leu	225	230	235	240
Val	Lys	Met	Leu	Gly	Ser	Pro	Val	Asp	Ser	Val	Leu	Phe	Tyr	Ala	Ile	245	250	255	
Thr	Thr	Leu	His	Asn	Leu	Leu	Leu	His	Gln	Glu	Gly	Ala	Lys	Met	Ala	260	265	270	
Val	Arg	Leu	Ala	Gly	Gly	Leu	Gln	Lys	Met	Val	Ala	Leu	Leu	Asn	Lys	275	280	285	
Thr	Asn	Val	Lys	Phe	Leu	Ala	Ile	Thr	Thr	Asp	Cys	Leu	Gln	Ile	Leu	290	295	300	
Ala	Tyr	Gly	Asn	Gln	Glu	Ser	Lys	Leu	Ile	Ile	Leu	Ala	Ser	Gly	Gly	305	310	315	320
Pro	Gln	Ala	Leu	Val	Asn	Ile	Met	Arg	Thr	Tyr	Thr	Tyr	Glu	Lys	Leu	325	330	335	
Leu	Trp	Thr	Thr	Ser	Arg	Val	Leu	Lys	Val	Leu	Ser	Val	Cys	Ser	Ser	340	345	350	
Asn	Lys	Pro	Ala	Ile	Val	Glu	Ala	Gly	Gly	Met	Gln	Ala	Leu	Gly	Leu	355	360	365	
His	Leu	Thr	Asp	Pro	Ser	Gln	Arg	Leu	Val	Gln	Asn	Cys	Leu	Trp	Thr	370	375	380	
Leu	Arg	Asn	Leu	Ser	Asp	Ala	Ala	Thr	Lys	Gln	Glu	Gly	Met	Glu	Gly	385	390	395	400
Leu	Leu	Gly	Thr	Leu	Val	Gln	Leu	Leu	Gly	Ser	Asp	Asp	Ile	Asn	Val	405	410	415	
Val	Thr	Cys	Ala	Ala	Gly	Ile	Leu	Ser	Asn	Leu	Thr	Cys	Asn	Asn	Tyr	420	425	430	
Lys	Asn	Lys	Met	Met	Val	Cys	Gln	Val	Gly	Gly	Ile	Glu	Ala	Leu	Val	435	440	445	
Arg	Thr	Val	Leu	Arg	Ala	Gly	Asp	Arg	Glu	Asp	Ile	Thr	Glu	Pro	Ala	450	455	460	
Ile	Cys	Ala	Leu	Arg	His	Leu	Thr	Ser	Arg	His	Gln	Glu	Ala	Glu	Met	465	470	475	480
Ala	Gln	Asn	Ala	Val	Arg	Leu	His	Tyr	Gly	Leu	Pro	Val	Val	Val	Lys	485	490	495	
Leu	Leu	His	Pro	Pro	Ser	His	Trp	Pro	Leu	Ile	Lys	Ala	Thr	Val	Gly	500	505	510	
Leu	Ile	Arg	Asn	Leu	Ala	Leu	Cys	Pro	Ala	Asn	His	Ala	Pro	Leu	Arg	515	520	525	
Glu	Gln	Gly	Ala	Ile	Pro	Arg	Leu	Val	Gln	Leu	Leu	Val	Arg	Ala	His	530	535	540	
Gln	Asp	Thr	Gln	Arg	Arg	Thr	Ser	Met	Gly	Gly	Thr	Gln	Gln	Gln	Phe	545	550	555	560
Val	Glu	Gly	Val	Arg	Met	Glu	Glu	Ile	Val	Glu	Gly	Cys	Thr	Gly	Ala	565	570	575	
Leu	His	Ile	Leu	Ala	Arg	Asp	Val	His	Asn	Arg	Ile	Val	Ile	Arg	Gly	580	585	590	
Leu	Asn	Thr	Ile	Pro	Leu	Phe	Val	Gln	Leu	Leu	Tyr	Ser	Pro	Ile	Glu	595	600	605	
Asn	Ile	Gln	Arg	Val	Ala	Ala	Gly	Val	Leu	Cys	Glu	Leu	Ala	Gln	Asp	610	615	620	
Lys	Glu	Ala	Ala	Glu	Ala	Ile	Glu	Ala	Glu	Gly	Ala	Thr	Ala	Pro	Leu	625	630	635	640
Thr	Glu	Leu	Leu	His	Ser	Arg	Asn	Glu	Gly	Val	Ala	Thr	Tyr	Ala	Ala	645	650	655	

Ala	Val	Leu	Phe	Arg	Met	Ser	Glu	Asp	Lys	Pro	Gln	Asp	Tyr	Lys	Lys
			660					665					670		
Arg	Leu	Ser	Val	Glu	Leu	Thr	Ser	Ser	Leu	Phe	Arg	Thr	Glu	Pro	Met
		675					680					685			
Ala	Trp	Asn	Glu	Thr	Ala	Asp	Leu	Gly	Leu	Asp	Ile	Gly	Ala	Gln	Gly
		690				695					700				
Glu	Pro	Leu	Gly	Tyr	Arg	Gln	Asp	Asp	Pro	Ser	Tyr	Arg	Ser	Phe	His
705					710					715					720
Ser	Gly	Gly	Tyr	Gly	Gln	Asp	Ala	Leu	Gly	Met	Asp	Pro	Met	Met	Glu
				725					730					735	
His	Glu	Met	Gly	Gly	His	His	Pro	Gly	Ala	Asp	Tyr	Pro	Val	Asp	Gly
			740					745					750		
Leu	Pro	Asp	Leu	Gly	His	Ala	Gln	Asp	Leu	Met	Asp	Gly	Leu	Pro	Pro
		755					760					765			
Gly	Asp	Ser	Asn	Gln	Leu	Ala	Trp	Phe	Asp	Thr	Asp	Leu			
	770					775					780				

<210> 17
 <211> 7
 <212> PRT
 <213> Unknown

<220>
 <223> Conserved catalytic domain that is a unique
 signature sequence motif that is invariant among
 all PTPs.

<220>
 <221> VARIANT
 <222> 2,3,4,5,6
 <223> Xaa = any amino acid

<400> 17
 Cys Xaa Xaa Xaa Xaa Xaa Arg
 1 5

<210> 18
 <211> 11
 <212> PRT
 <213> unknown

<220>
 <223> Eleven amino acid conserved sequence found in a
 majority of PTPs.

<221> VARIANT
 <222> 1
 <223> Xaa = Ile or Val

<221> VARIANT
 <222> 10
 <223> Xaa = Ser or Thr

<400> 18
 Xaa His Cys Xaa Ala Gly Xaa Xaa Arg Xaa Gly
 1 5 10

<210> 19
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> DEP-1 extracellular domain peptide.

<400> 19
 Cys Asp Ala Ser Asn Thr Glu Arg Ser Arg Ala Gly Ser Pro Thr Ala
 1 5 10 15
 Pro

<210> 20
 <211> 8
 <212> PRT
 <213> unknown

<220>
 <223> Sequence which matched the src substrate and
 adherens junction component, p120ctn

<400> 20
 Asn Leu Ser Tyr Gln Val His Arg
 1 5

<210> 21
 <211> 17
 <212> PRT
 <213> unknown

<220>
 <223> Sequences which matched the src substrate and
 adherens junction component, p120ctn

<400> 21
 Ser Gln Ser Ser His Ser Tyr Asp Asp Ser Thr Leu Pro Leu Ile Asp
 1 5 10 15
 Arg

<210> 22
 <211> 745
 <212> PRT

<213> Homo sapiens

<400> 22

Met	Glu	Val	Met	Asn	Leu	Met	Glu	Gln	Pro	Ile	Lys	Val	Thr	Glu	Trp
1				5					10					15	
Gln	Gln	Thr	Tyr	Thr	Tyr	Asp	Ser	Gly	Ile	His	Ser	Gly	Ala	Asn	Thr
			20					25					30		
Cys	Val	Pro	Ser	Val	Ser	Ser	Lys	Gly	Ile	Met	Glu	Glu	Asp	Glu	Ala
		35					40					45			
Cys	Gly	Arg	Gln	Tyr	Thr	Leu	Lys	Lys	Thr	Thr	Thr	Tyr	Thr	Gln	Gly
	50					55					60				
Val	Pro	Pro	Ser	Gln	Gly	Asp	Leu	Glu	Tyr	Gln	Met	Ser	Thr	Thr	Ala
65					70					75					80
Arg	Ala	Lys	Arg	Val	Arg	Glu	Ala	Met	Cys	Pro	Gly	Val	Ser	Gly	Glu
				85					90					95	
Asp	Ser	Ser	Leu	Leu	Leu	Ala	Thr	Gln	Val	Glu	Gly	Gln	Ala	Thr	Asn
			100					105					110		
Leu	Gln	Arg	Leu	Ala	Glu	Pro	Ser	Gln	Leu	Leu	Lys	Ser	Ala	Ile	Val
		115					120					125			
His	Leu	Ile	Asn	Tyr	Gln	Asp	Asp	Ala	Glu	Leu	Ala	Thr	Arg	Ala	Leu
	130					135					140				
Pro	Glu	Leu	Thr	Lys	Leu	Leu	Asn	Asp	Glu	Asp	Pro	Val	Val	Val	Thr
145					150					155					160
Lys	Ala	Ala	Met	Ile	Val	Asn	Gln	Leu	Ser	Lys	Lys	Glu	Ala	Ser	Arg
				165					170					175	
Arg	Ala	Leu	Met	Gly	Ser	Pro	Gln	Leu	Val	Ala	Ala	Val	Val	Arg	Thr
		180						185					190		
Met	Gln	Asn	Thr	Ser	Asp	Leu	Asp	Thr	Ala	Arg	Cys	Thr	Thr	Ser	Ile
		195					200					205			
Leu	His	Asn	Leu	Ser	His	His	Arg	Glu	Gly	Leu	Leu	Ala	Ile	Phe	Lys
	210					215					220				
Ser	Gly	Gly	Ile	Pro	Ala	Leu	Val	Arg	Met	Leu	Ser	Ser	Pro	Val	Glu
225					230					235					240
Ser	Val	Leu	Phe	Tyr	Ala	Ile	Thr	Thr	Leu	His	Asn	Leu	Leu	Leu	Tyr
				245					250					255	
Gln	Glu	Gly	Ala	Lys	Met	Ala	Val	Arg	Leu	Ala	Asp	Gly	Leu	Gln	Lys
			260					265					270		
Met	Val	Pro	Leu	Leu	Asn	Lys	Asn	Asn	Pro	Lys	Phe	Leu	Ala	Ile	Thr
		275					280					285			
Thr	Asp	Cys	Leu	Gln	Leu	Leu	Ala	Tyr	Gly	Asn	Gln	Glu	Ser	Lys	Leu
	290					295					300				
Ile	Ile	Leu	Ala	Asn	Gly	Gly	Pro	Gln	Ala	Leu	Val	Gln	Ile	Met	Arg
305					310					315					320
Asn	Tyr	Ser	Tyr	Glu	Lys	Leu	Leu	Trp	Thr	Thr	Ser	Arg	Val	Leu	Lys
				325					330					335	
Val	Leu	Ser	Val	Cys	Pro	Ser	Asn	Lys	Pro	Ala	Ile	Val	Glu	Ala	Gly
			340					345					350		
Gly	Met	Gln	Ala	Leu	Gly	Lys	His	Leu	Thr	Ser	Asn	Ser	Pro	Arg	Leu
		355					360					365			
Val	Gln	Asn	Cys	Leu	Trp	Thr	Leu	Arg	Asn	Leu	Ser	Asp	Val	Ala	Thr
	370					375					380				
Lys	Gln	Glu	Gly	Leu	Glu	Ser	Val	Leu	Lys	Ile	Leu	Val	Asn	Gln	Leu
385					390					395					400
Ser	Val	Asp	Asp	Val	Asn	Val	Leu	Thr	Cys	Ala	Thr	Gly	Thr	Leu	Ser

				405				410				415				
Asn	Leu	Thr	Cys	Asn	Asn	Ser	Lys	Asn	Lys	Thr	Leu	Val	Thr	Gln	Asn	
				420					425					430		
Ser	Gly	Val	Glu	Ala	Leu	Ile	His	Ala	Ile	Leu	Arg	Ala	Gly	Asp	Lys	
				435					440					445		
Asp	Asp	Ile	Thr	Glu	Pro	Ala	Val	Cys	Ala	Leu	Arg	His	Leu	Thr	Ser	
				450					455					460		
Arg	His	Pro	Glu	Ala	Glu	Met	Ala	Gln	Asn	Ser	Val	Arg	Leu	Asn	Tyr	
				465					470					475		
Gly	Ile	Pro	Ala	Ile	Val	Lys	Leu	Leu	Asn	Gln	Pro	Asn	Gln	Trp	Pro	
				485					490					495		
Leu	Val	Lys	Ala	Thr	Ile	Gly	Leu	Ile	Arg	Asn	Leu	Ala	Leu	Cys	Pro	
				500					505					510		
Ala	Asn	His	Ala	Pro	Leu	Gln	Glu	Ala	Ala	Val	Ile	Pro	Arg	Leu	Val	
				515					520					525		
Gln	Leu	Leu	Val	Lys	Ala	His	Gln	Asp	Ala	Gln	Arg	His	Val	Ala	Ala	
				530					535					540		
Gly	Thr	Gln	Gln	Pro	Tyr	Thr	Asp	Gly	Val	Arg	Met	Glu	Glu	Ile	Val	
				545					550					555		
Glu	Gly	Cys	Thr	Gly	Ala	Leu	His	Ile	Leu	Ala	Arg	Asp	Pro	Met	Asn	
				565					570					575		
Arg	Met	Glu	Ile	Phe	Arg	Leu	Asn	Thr	Ile	Pro	Leu	Phe	Val	Gln	Leu	
				580					585					590		
Leu	Tyr	Ser	Ser	Val	Glu	Asn	Ile	Gln	Arg	Val	Ala	Ala	Gly	Val	Leu	
				595					600					605		
Cys	Glu	Leu	Ala	Gln	Asp	Lys	Glu	Ala	Ala	Asp	Ala	Ile	Asp	Ala	Glu	
				610					615					620		
Gly	Ala	Ser	Ala	Pro	Leu	Met	Glu	Leu	Leu	His	Ser	Arg	Asn	Glu	Gly	
				625					630					635		
Thr	Ala	Thr	Tyr	Ala	Ala	Ala	Val	Leu	Phe	Arg	Ile	Ser	Glu	Asp	Lys	
				645					650					655		
Asn	Pro	Asp	Tyr	Arg	Lys	Arg	Val	Ser	Val	Glu	Leu	Thr	Asn	Ser	Leu	
				660					665					670		
Phe	Lys	His	Asp	Pro	Ala	Ala	Trp	Glu	Ala	Ala	Gln	Ser	Met	Ile	Pro	
				675					680					685		
Ile	Asn	Glu	Pro	Tyr	Gly	Asp	Asp	Met	Asp	Ala	Thr	Tyr	Arg	Pro	Met	
				690					695					700		
Tyr	Ser	Ser	Asp	Val	Pro	Leu	Asp	Pro	Leu	Glu	Met	His	Met	Asp	Met	
				705					710					715		
Asp	Gly	Asp	Tyr	Pro	Ile	Asp	Thr	Tyr	Ser	Asp	Gly	Leu	Arg	Pro	Pro	
				725					730					735		
Tyr	Pro	Thr	Ala	Asp	His	Met	Leu	Ala								
				740					745							